

# SAFETY DATA SHEET



## Ti-Pure™ R-103 Titanium Dioxide Pigment

Version	Revision Date:	SDS Number:	Date of last issue: 2023/12/06
4.0	2024/10/17	1601929-00018	Date of first issue: 2017/04/27

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ti-Pure™ R-103 Titanium Dioxide Pigment

SDS-Identcode : 130000030905

Other means of identification : None

#### Recommended use of the chemical and restrictions on use

Recommended use : Colouring agent  
Pigment

Restrictions on use : For industrial use only.

#### Manufacturer or supplier's details

Company : Chemours Titanium Technologies (Taiwan) Ltd

Address : 7F., No. 167, Dunhua N. Rd., Songshan Dist., Taipei City 105,  
Taiwan

Telephone : 0080-112-7758

Emergency telephone number : 0800 055 119 (in case of chemical spill, fire or poisoning accident)

Telefax : 02-2719-8516

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Not a hazardous substance or mixture.

#### GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

#### Other hazards which do not result in classification

None known.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

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Hazardous ingredients	CAS-No.	Concentration (% w/w)
Titanium dioxide	13463-67-7	$\geq 90$ - $\leq 100$
Aluminium hydroxide	21645-51-2	$\geq 1$ - $< 10$
Trimethylolpropane	77-99-6	$\geq 0.1$ - $< 1$
Silicon dioxide, amorphous#	7631-86-9	$< 0.1$

# Voluntarily-disclosed substance

### 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.

#### First aid measures for different exposure routes

If inhaled : If inhaled, remove to fresh air.  
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : irritant effects

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

### 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Not applicable  
Will not burn

Unsuitable extinguishing media : Not applicable  
Will not burn

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- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Metal oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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### 7. HANDLING AND STORAGE

#### Handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.

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Advice on safe handling : Do not swallow.  
Avoid contact with eyes.  
Avoid prolonged or repeated contact with skin.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Take care to prevent spills, waste and minimize release to the environment.

### Storage

Conditions for safe storage : Keep in properly labelled containers.  
Store in accordance with the particular national regulations.

Materials to avoid : No special restrictions on storage with other products.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Titanium dioxide	13463-67-7	TWA	10 mg/m3	TW OEL
		STEL	15 mg/m3	TW OEL
		TWA (Respirable particulate matter)	2.5 mg/m3 (Titanium dioxide)	ACGIH
Aluminium hydroxide	21645-51-2	TWA (Respirable particulate matter)	1 mg/m3 (Aluminium)	ACGIH

### Biological occupational exposure limits

Contains no substances with biological exposure indices.

Engineering measures : Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

### Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

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- |                          |   |
|--------------------------|---|
| Remarks                  | : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. |
| Eye protection           | : Wear the following personal protective equipment:<br>Safety glasses   |
| Skin and body protection | : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).   |
| Hygiene measures         | : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use.  |

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- |   |                     |
|---|---------------------|
| Appearance                              | : crystalline       |
| Colour                                  | : white             |
| Odour                                   | : odourless         |
| Odour Threshold                         | : No data available |
| pH                                      | : No data available |
| Melting point/freezing point            | : 1,843 °C          |
| Initial boiling point and boiling range | : 3,000 °C          |
| Flash point                             | : Not applicable    |
| Evaporation rate                        | : Not applicable    |
| Flammability (solid, gas)               | : Will not burn     |

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Not expected to form explosive dust-air mixtures.

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : 3.6 - 4.3

Solubility(ies)  
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : The substance or mixture is not classified self-reactive.

Viscosity  
Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics  
Particle size : No data available

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### 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : None known.

Conditions to avoid : None known.

Incompatible materials : None.

Hazardous decomposition products : No hazardous decomposition products are known.

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**11. TOXICOLOGICAL INFORMATION**

Exposure routes : Skin contact  
Ingestion  
Eye contact

Symptoms of Overexposure : irritant effects

**Acute toxicity**

Not classified based on available information.

**Components:****Titanium dioxide:**

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	: LC50 (Rat): > 6.82 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: Acute toxicity estimate (Rat): > 2,000 mg/kg Method: Expert judgement Assessment: The substance or mixture has no acute dermal toxicity

**Aluminium hydroxide:**

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: LC50 (Rat): > 5.09 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials

**Trimethylolpropane:**

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 0.85 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg

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**Silicon dioxide, amorphous:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 2.08 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Titanium dioxide:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

**Aluminium hydroxide:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

**Trimethylolpropane:**

Species	:	Rabbit
Result	:	No skin irritation

**Silicon dioxide, amorphous:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Titanium dioxide:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405



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**Aluminium hydroxide:**

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405

**Trimethylolpropane:**

Species	: Rabbit
Result	: No eye irritation

**Silicon dioxide, amorphous:**

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****Titanium dioxide:**

Test Type	: Buehler Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: negative

Exposure routes	: Inhalation
Species	: Mouse
Result	: negative

Exposure routes	: Inhalation
Species	: Humans
Result	: negative

**Aluminium hydroxide:**

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406

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||Result : negative

**Trimethylolpropane:**

||Test Type : Local lymph node assay (LLNA)  
||Exposure routes : Skin contact  
||Species : Mouse  
||Method : OECD Test Guideline 429  
||Result : negative

**Chronic toxicity****Germ cell mutagenicity**

Not classified based on available information.

**Components:****Titanium dioxide:**

||Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
  
Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
  
Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
  
Test Type: comet assay  
Method: OPPTS 870.5140  
Result: positive

||Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay  
Species: Rat  
Application Route: intratracheal  
Method: OECD Test Guideline 489  
Result: negative  
  
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative  
  
Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 475  
Result: negative

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	Test Type: Transgenic rodent germ cell gene mutation assay Species: Mouse Application Route: Intravenous injection Method: OECD Test Guideline 488 Result: negative
Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

**Aluminium hydroxide:**

Genotoxicity in vitro	: Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
	Test Type: Chromosome aberration test in vitro Result: positive Remarks: Based on data from similar materials
	Test Type: DNA damage and repair, unscheduled DNA syn- thesis in mammalian cells (in vitro) Result: equivocal Remarks: Based on data from similar materials
	Test Type: in vitro micronucleus test Result: positive Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative

**Trimethylolpropane:**

Genotoxicity in vitro	: Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
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**Silicon dioxide, amorphous:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: Ingestion Result: negative

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Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### Carcinogenicity

Not classified based on available information.

### Product:

Remarks : In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m<sup>3</sup> of respirable TiO<sub>2</sub>. Slight lung fibrosis was observed at 50 and 250 mg/m<sup>3</sup> levels. Microscopic lung tumours were also observed in 13 percent of the rats exposed to 250 mg/m<sup>3</sup>, an exposure level that caused lung overloading and impairment of rat lungs clearance mechanisms.

In further studies, these tumours were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO<sub>2</sub> particles exposure was also found to be much more severe in rats than in other rodent species.

In February 2006, IARC has re-evaluated Titanium dioxide as pertaining to Group 2B: "possibly carcinogenic to humans", based upon inadequate evidence in humans and sufficient evidence in experimental animals for the carcinogenicity of titanium dioxide. IARC evaluation guidelines consider the generation of tumours, in 2 different studies within the same animal species, to be adequate criteria for an assessment of sufficient evidence.

The conclusions of several epidemiology studies on more than 20000 TiO<sub>2</sub> industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO<sub>2</sub> dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO<sub>2</sub> dust.

Based upon all available study results, Chemours scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.

### Components:

#### Titanium dioxide:

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 Years  
Result : negative

Species : Rat  
Application Route : Ingestion  
Exposure time : 105 weeks

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Result : negative

Species : Mouse  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### Aluminium hydroxide:

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 86 weeks  
Result : negative  
Remarks : Based on data from similar materials

### Silicon dioxide, amorphous:

Species : Rat  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### Reproductive toxicity

Not classified based on available information.

### Components:

#### Titanium dioxide:

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 443  
Result: negative

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

#### Aluminium hydroxide:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test

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	Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
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Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative
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### Trimethylolpropane:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: positive
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Effects on foetal development	: Species: Rat Application Route: Ingestion Method: OECD Test Guideline 443 Result: positive
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Reproductive toxicity - Assessment	: Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.
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### Silicon dioxide, amorphous:

Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative
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Reproductive toxicity - Assessment	: Weight of evidence does not support classification for reproductive toxicity
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### STOT - single exposure

Not classified based on available information.

### Components:

#### Titanium dioxide:

Exposure routes	: Skin contact
Assessment	: No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Exposure routes	: Ingestion
Assessment	: No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Exposure routes	: inhalation (dust/mist/fume)
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Assessment : No significant health effects observed in animals at concentrations of 5.0 mg/l/4h or less

### STOT - repeated exposure

Not classified based on available information.

### Components:

#### Titanium dioxide:

Exposure routes : Ingestion  
Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Exposure routes : inhalation (dust/mist/fume)  
Assessment : No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Exposure routes : Ingestion  
Assessment : No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

### Repeated dose toxicity

### Components:

#### Titanium dioxide:

Species : Rat, male and female  
NOAEL : 24,000 mg/kg  
LOAEL : > 24,000 mg/kg  
Application Route : Ingestion  
Exposure time : 28 Days  
Method : OECD Test Guideline 407  
Remarks : No significant adverse effects were reported

Species : Rat, male and female  
NOAEL : 0.01 mg/l  
LOAEL : 0.5 mg/l  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 24 Months  
Method : OECD Test Guideline 453  
Remarks : No significant adverse effects were reported

Species : Rat, male and female  
NOAEL : 962 mg/kg  
LOAEL : > 962 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408  
Remarks : No significant adverse effects were reported

#### Aluminium hydroxide:

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Species	: Rat
NOAEL	: > 100 mg/kg
Application Route	: Ingestion
Exposure time	: 364 Days
Method	: OECD Test Guideline 426
Remarks	: Based on data from similar materials

Species	: Rat
NOAEL	: > 0.2 mg/kg
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 12 Months
Remarks	: Based on data from similar materials

### Trimethylolpropane:

Species	: Rat
NOAEL	: 67 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days

### Silicon dioxide, amorphous:

Species	: Rat
NOAEL	: 1.3 mg/m3
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 13 Weeks

### Aspiration toxicity

Not classified based on available information.

### Components:

#### Titanium dioxide:

|| No aspiration toxicity classification

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Components:

#### Titanium dioxide:

Toxicity to fish	: LC50 (Fish): > 1,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
	LC50 (Marine species): > 10,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other	: EC50 (Daphnia sp. (water flea)): > 1,000 mg/l



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aquatic invertebrates	Exposure time: 48 h Method: OECD Test Guideline 202  EC50 (No species specified): > 1,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201  EC50 ( <i>Skeletonema costatum</i> (marine diatom)): > 10,000 mg/l Exposure time: 72 h Method: ISO 10253  NOEC ( <i>Pseudokirchneriella subcapitata</i> (green algae)): > 100 mg/l Exposure time: 3 d Method: OECD Test Guideline 201  NOEC ( <i>Skeletonema costatum</i> (marine diatom)): 5,600 mg/l Exposure time: 3 d Method: ISO 10253

**Aluminium hydroxide:**

Toxicity to fish	: LL50 ( <i>Salmo trutta</i> (brown trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EL50 ( <i>Daphnia magna</i> (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EL50 ( <i>Selenastrum capricornutum</i> (green algae)): > 100 mg/l Exposure time: 96 h

**Trimethylolpropane:**

Toxicity to fish	: LC50 ( <i>Oryzias latipes</i> (Orange-red killifish)): > 1,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 ( <i>Daphnia magna</i> (Water flea)): 13,000 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 ( <i>Pseudokirchneriella subcapitata</i> (green algae)): > 1,000 mg/l Exposure time: 72 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC ( <i>Daphnia magna</i> (Water flea)): > 1,000 mg/l Exposure time: 21 d
Toxicity to microorganisms	: EC50: > 1,000 mg/l

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Exposure time: 3 h

### Silicon dioxide, amorphous:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): > 10,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Desmodesmus subspicatus (green algae)): > 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
	NOEC (Desmodesmus subspicatus (green algae)): 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

### Persistence and degradability

#### Components:

##### Trimethylolpropane:

Biodegradability	: Result: Not readily biodegradable. Biodegradation: 6 % Exposure time: 28 d
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### Bioaccumulative potential

#### Components:

##### Titanium dioxide:

Bioaccumulation	: Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 352
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##### Trimethylolpropane:

Partition coefficient: n-octanol/water	: log Pow: -0.47
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### Mobility in soil

No data available

### Other adverse effects

No data available

# SAFETY DATA SHEET



## Ti-Pure™ R-103 Titanium Dioxide Pigment

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### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

Waste from residues : Do not dispose of waste into sewer.  
Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Environmentally hazardous : no

##### IATA-DGR

UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

##### IMDG-Code

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : no

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### Special precautions for user

Not applicable

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### 15. REGULATORY INFORMATION

#### National regulatory information

Regulations on Occupational Safety and Health Facilities	: applicable
Standards for the Storage, Cleanup, Handling and Disposal of Industrial Waste	: applicable
Regulations on Labelling and Hazard Communication of Hazardous Chemicals	: Not classified as dangerous or harmful substances
Rules on Road Traffic Safety	: Not applicable
Standards of Permissible Exposure Limits in Workplace	: applicable
Rules on the Prevention of Poisoning from Organic Solvents.	: Not applicable
Standard for the Control of Designated Hazardous and Dangerous Chemicals	: Not applicable
Establishment Standards and Safety Control Regulations for Manufacturing, Storing, Processing Public Hazardous Substances and Flammable Pressurized Gases Places	: Not applicable
Toxic and Concerned Chemical Substances Control Act	
Toxic chemical substances	: Not applicable
Concerned chemical substances	: Not applicable
Regulations for Governing Designating and Handling of Priority Management Chemicals	: Not applicable

### 16. OTHER INFORMATION

Other information : Ti-Pure™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours™ and the Chemours Logo are trademarks of The Chemours Company.

Before use read Chemours safety information.

For further information contact the local Chemours office or nominated distributors.

These products may not be directly added to food, pharmaceuticals, cosmetics, or cigarette papers/filters for tobacco products.

Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

An electrostatic charge can potentially build up when pouring or conveying product from plastic bags. Do not use plastic bags in the presence of flammable or explosive vapors.

In the manufacture of titanium dioxide, product is packaged at temperatures of approximately 100 to 120°C (212 to 248°F).

When pigment is shipped shortly after manufacture, it may stay hot for a very long time depending on ambient tempera-

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tures and inventory storage practices. Use caution while handling hot pigment to prevent burns to personnel. Use caution in solvent applications to prevent ignition of solvent.

### Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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Revision Date : 2024/10/17

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
TW OEL : Standards of Permissible Exposure Limits in Workplace

ACGIH / TWA : 8-hour, time-weighted average  
TW OEL / TWA : 8-hour time weighted average  
TW OEL / STEL : time weighted average for short term exposure

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median

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Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

TW / EN