

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

CTION 1: Identification	ate of issue: 09/21/2020 Version: 1.0	ASS-TM-080
CHON-I: Identification		
. Identification		
roduct form	: Mixture	
Chemical name	: Titanium dioxide	
rade name	: TIPAQUE PFC105	
CAS-No.	: 13463-67-7	
. Recommended use and restrictions	on use	
ecommended use	: Pigment	
. Supplier	5	
Aanufacturer		Distributor
SHIHARA SANGYO KAISHA, LTD.		ISHIHARA CORPORATION (U. S. A)
3-15 EDOBORI 1-CHOME,NISHI-KU, OSA	KA-SHLOSAKA 550-0002 JAPAN	601 CALIFORNIA ST., STE 1700
· · · · · · · · · · · · · · · · · · ·	,	SAN FRANCISCO. CA
		94108 - USA
TEL +81-6-6444-1451		TEL (415) 421-8207
Emergency telephone number		
4 Hour Number for transportation emergency	spills leak fire or accident : CHEMTREC	
-800-424-9300 (USA only) / +1-703-741-597	70	
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ECTION 2: Hazard(s) identification	n	
1. Classification of the substance or n	nixture	
1. Classification of the substance or n HS US classification	nixture	
HS US classification		child
		child
HS US classification Reproductive toxicity Category 2 H361 Su	spected of damaging fertility or the unborn	child
HS US classification         Reproductive toxicity Category 2       H361         Subscription         GHS Label elements, including pro-	spected of damaging fertility or the unborn	child
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling	spected of damaging fertility or the unborn	child
HS US classification Reproductive toxicity Category 2 H361 Su	spected of damaging fertility or the unborn	child
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HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US)	ecautionary statements : : : : : : : : : : : : :	
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US)	espected of damaging fertility or the unborn ecautionary statements : : : : : : : : : : : : : : : : : : :	ylolpropane
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US) Hazard statements (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : : : : : : : : : : : : : : : : : :	ylolpropane řertility or the unborn child
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : : : : : : : : : : : : : : : : : :	ylolpropane ertility or the unborn child is before use.
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : Warning Hazardous ingredients : Trimeth : H361 - Suspected of damaging f : P201 - Obtain special instruction P202 - Do not handle until all sa	ylolpropane ertility or the unborn child 1s before use. fety precautions have been read and understood.
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : Warning Hazardous ingredients : Trimeth : H361 - Suspected of damaging f : P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p	ylolpropane ertility or the unborn child is before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection.
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US) Hazard statements (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : Warning Hazardous ingredients : Trimeth : H361 - Suspected of damaging f : P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p	ylolpropane ertility or the unborn child 1s before use. fety precautions have been read and understood.
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling	spected of damaging fertility or the unborn ecautionary statements : : Warning Hazardous ingredients : Trimeth : H361 - Suspected of damaging f : P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p	ylolpropane ertility or the unborn child is before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection.
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : Warning Hazardous ingredients : Trimeth : H361 - Suspected of damaging f : P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p P308+P313 - IF exposed or com P405 - Store locked up.	ylolpropane Fertility or the unborn child ns before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection. serned: Get medical advice/attention.
HS US classification Reproductive toxicity Category 2 H361 Su C. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Hazard statements (GHS US)	<ul> <li>spected of damaging fertility or the unborn</li> <li>cautionary statements</li> <li>: Warning Hazardous ingredients : Trimeth</li> <li>: H361 - Suspected of damaging f</li> <li>: P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p</li> <li>P308+P313 - IF exposed or cond P405 - Store locked up. P501 - Dispose of contents/cont</li> </ul>	ylolpropane ertility or the unborn child hs before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection. serned: Get medical advice/attention. ainer to hazardous or special waste collection point, in accordance with
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Hazard statements (GHS US) Precautionary statements (GHS US)	<ul> <li>spected of damaging fertility or the unborn</li> <li>cautionary statements</li> <li>: Warning Hazardous ingredients : Trimeth</li> <li>: H361 - Suspected of damaging f</li> <li>: P201 - Obtain special instruction P202 - Do not handle until all sa P280 - Wear protective gloves/p</li> <li>P308+P313 - IF exposed or com P405 - Store locked up.</li> <li>P501 - Dispose of contents/cont local, regional, national and/or i</li> </ul>	ylolpropane ertility or the unborn child hs before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection. serned: Get medical advice/attention. ainer to hazardous or special waste collection point, in accordance with
HS US classification         Reproductive toxicity Category 2       H361         Summer Strain Stra	spected of damaging fertility or the unborn ecautionary statements : : : : : : : : : : : : : : : : : : :	ylolpropane ertility or the unborn child hs before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection. serned: Get medical advice/attention. ainer to hazardous or special waste collection point, in accordance with
HS US classification Reproductive toxicity Category 2 H361 Su 2. GHS Label elements, including pro HS US labeling Hazard pictograms (GHS US) Signal word (GHS US) Hazard statements (GHS US) Precautionary statements (GHS US)	spected of damaging fertility or the unborn ecautionary statements : : : : : : : : : : : : : : : : : : :	ylolpropane ertility or the unborn child hs before use. fety precautions have been read and understood. rotective clothing/eye protection/face protection. serned: Get medical advice/attention. ainer to hazardous or special waste collection point, in accordance with

# **SECTION 3: Composition/Information on ingredients**

# 3.1.SubstancesNot applicable3.2.Mixtures

3.2. Mixtures			
Product identifier	%	GHS US classification	
(CAS-No.) 13463-67-7	>= 80	Not classified	
(CAS-No.) 21645-51-2	< 10	Not classified	
(CAS-No.) 7631-86-9	< 10	Not classified	
(CAS-No.) 1314-23-4	< 10	Not classified	
(CAS-No.) 77-99-6	< 1	Repr. 2, H361	
	(CAS-No.) 13463-67-7 (CAS-No.) 21645-51-2 (CAS-No.) 7631-86-9 (CAS-No.) 1314-23-4	(CAS-No.) 13463-67-7       >= 80         (CAS-No.) 21645-51-2       < 10	

Impurities and/or stabilizing additives which contribute to the classification : None Full text of hazard classes and H-statements : see section 16

# **SECTION 4: First-aid measures**

4.1. Description of first aid measures		
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.	
First-aid measures after skin contact	: If skin irritation occurs: Get medical advice/attention. Gently wash with plenty of soap and water.	
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
First-aid measures after ingestion	: Rinse mouth. Get medical advice/attention if you feel unwell.	
4.2. Most important symptoms and effects (acute and delayed)		
No additional information available		
4.3. Immediate medical attention and special treatment, if necessary		
No additional information available		

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<b>SECTION 5: Fire-fighting measures</b>		
5.1. Suitable (and unsuitable) extinguis		
Suitable extinguishing media	: Water spray. Carbon dioxide. Dry powder. Foam. Sand.	
Unsuitable extinguishing media	: Strong water jet.	
5.2. Specific hazards arising from the c	hemical	
Fire hazard	: Dust formation.	
5.3. Special protective equipment and p		
Firefighting instructions	: Move containers from fire area if it can be done without pe	
Protection during firefighting	: Suitable respiratory equipment. Complete protective clothing	ng.
SECTION 6: Accidental release mea	sures	
6.1. Personal precautions, protective eq	uipment and emergency procedures	
General measures	<ul> <li>Evacuate area. Avoid contact with skin and eyes. Do not be spilled product. Ventilate spillage area. Ensure adequate ventiles</li> </ul>	
6.1.1. For non-emergency personnel		
(see section(s) :6.1.2)		
6.1.2. For emergency responders		
Protective equipment	: Wear proper protective equipment. For further information controls/personal protection".	refer to section 8: "Exposure
6.2. Environmental precautions		
Avoid release to the environment. Prevent entry	to sewers and public waters.	
6.3. Methods and material for containn		
For containment	: Stop leak, if possible without risk. Avoid raising dust.	
Methods for cleaning up	<ul> <li>Clean up immediately by sweeping or vacuum. Retain drai for subsequent recycle.</li> </ul>	n downs in sealed storage pending disposal or
6.4. Reference to other sections		
For further information refer to section 13.		
SECTION 7: Handling and storage		
7.1. Precautions for safe handling		
Precautions for safe handling	: Wear proper protective equipment. For further information protection".	refer to section 8: "Exposure controls/personal
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash	hands, forearms and face thoroughly after handling.
7.2. Conditions for safe storage, includi		
Technical measures		

 7.2.
 Conditions for safe storage, including any incompatibilities

 Technical measures
 : Store away from heat/moisture.

 Storage conditions
 : Store away from direct sunlight or other heat sources. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

 Incompatible materials
 : Refer to Section 10 on Incompatible Materials.

## **SECTION 8: Exposure controls/personal protection**

10 mg/m <sup>3</sup> 15 mg/m <sup>3</sup> (total dust)		
$15 \text{ mg/m}^3$ (total dust)		
8 ( )		
5000 mg/m <sup>3</sup>		
) 2.4 mg/m <sup>3</sup> (CIB 63-fine) 0.3 mg/m <sup>3</sup> (CIB 63-ultrafine, including engineered nanoscale)		
Aluminum hydroxide (21645-51-2)		
Not applicable		
Amorphous Silica (7631-86-9)		
80 mg/m <sup>3</sup> /(% silica)		
Not applicable		

8.2. Appropriate engineering controls Appropriate engineering controls

: Local exhaust and general ventilation must be adequate to meet exposure standards. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment
 Hand protection:
 Wear suitable gloves
 Eye protection:
 Wear eye or face protection
 Skin and body protection:
 Wear suitable protective clothing
 Respiratory protection:
 Wear suitable respiratory equipment

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# **SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and ch	
Physical state	: Solid
Appearance	: Powder
Color	: white
Odor	: odorless
Odor threshold	: No data available
pH	: 5 - 9
Melting point	: 1820 - 1850 °C
Freezing point	: No data available
Boiling point	: 2500 - 3000 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	$: 3.5 - 4.2 \text{ g/cm}^3$
Solubility	: Insoluble in water and organic solvent.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
9.2. Other information	
No additional information available	
SECTION 10: Stability and reactivity	
10.1. Reactivity	
Stable under normal conditions.	

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

#### **10.3. Possibility of hazardous reactions** Stable under normal conditions.

**10.4.** Conditions to avoid Avoid creating or spreading dust. Direct sunlight. Heat.

**10.5. Incompatible materials** No data available.

**10.6.** Hazardous decomposition products No data available.

# SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Titanium dioxide (13463-67-7)	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
LD50 : rat (oral)	> 10000 mg/kg
Aluminum hydroxide (21645-51-2)	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
LD50 : rat (oral)	> 5000 mg/kg
Amorphous Silica (7631-86-9)	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified.
LD50 : rat (oral)	7900 mg/kg
LD50 : rabbit (dermal)	> 2000 mg/kg
LC50 rat (inhalation)	> 2.2 mg/l (Exposure time: 1 h)
Zirconium dioxide (1314-23-4)	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

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Trimethylolpropane (77-99-6)	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
LD50 : rat (oral)	
	14100 mg/kg
LC50 rat (inhalation)	> 0.29 mg/l/4h
Skin corrosion/irritation	: Not classified pH: 5 - 9
Titanium dioxide (13463-67-7)	pii. 5 - 7
Skin corrosion/irritation	Not classified
Aluminum hydroxide (21645-51-2)	
Skin corrosion/irritation	Not classified
Amorphous Silica (7631-86-9)	Not classified
Skin corrosion/irritation	Not classified
	Not classified
Zirconium dioxide (1314-23-4)	
Skin corrosion/irritation	Not classified
Trimethylolpropane (77-99-6)	
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	: Not classified
Titanium dioxide (13463-67-7)	pH: 5 - 9
Serious eye damage/irritation	Not classified
Aluminum hydroxide (21645-51-2)	
Serious eye damage/irritation	Not classified
Amorphous Silica (7631-86-9)	
Serious eye damage/irritation	Not classified
Zirconium dioxide (1314-23-4)	
Serious eye damage/irritation	Not classified
Trimethylolpropane (77-99-6)	
Serious eye damage/irritation	Not classified
Serie as effe daringer innanten	
Respiratory or skin sensitization	: Not classified
Titanium dioxide (13463-67-7)	
Respiratory or skin sensitization	Not classified
Aluminum hydroxide (21645-51-2)	
Respiratory or skin sensitization	Not classified
Amorphous Silica (7631-86-9)	
Respiratory or skin sensitization	Not classified
Zirconium dioxide (1314-23-4)	
Respiratory or skin sensitization	Not classified
Trimethylolpropane (77-99-6)	
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	: Not classified
Titanium dioxide (13463-67-7)	
Germ cell mutagenicity	Not classified
Aluminum hydroxide (21645-51-2)	
	N.4.1
Germ cell mutagenicity	Not classified
Amorphous Silica (7631-86-9)	
Germ cell mutagenicity	Not classified
Zirconium dioxide (1314-23-4)	
Germ cell mutagenicity	Not classified
Trimethylolpropane (77-99-6)	
Germ cell mutagenicity	Not classified
<i></i>	Not classified
Carcinogenicity	
Carcinogenicity Titanium dioxide (13463-67-7)	Not classified
Carcinogenicity	Not classified           : Not classified.           In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity	Not classified         : Not classified.         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity Additional information	Not classified         : Not classified         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide         see section(s) :16
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity Additional information IARC group	Not classified         : Not classified         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide         see section(s) :16         2B - Possibly carcinogenic to humans
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity Additional information IARC group In OSHA Hazard Communication Carcinogen li	Not classified         : Not classified         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide         see section(s) :16         2B - Possibly carcinogenic to humans
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity Additional information IARC group In OSHA Hazard Communication Carcinogen li Aluminum hydroxide (21645-51-2)	Not classified         : Not classified.         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide         see section(s) :16         2B - Possibly carcinogenic to humans
Carcinogenicity Titanium dioxide (13463-67-7) Carcinogenicity Additional information IARC group In OSHA Hazard Communication Carcinogen li	Not classified         : Not classified         In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide         see section(s) :16         2B - Possibly carcinogenic to humans

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Amorphous Silica (7631-86-9)		
Carcinogenicity	Not classified	
IARC group	3 - Not classifiable	
Zirconium dioxide (1314-23-4)		
Carcinogenicity	Not classified	
IARC group	No data available	
Trimethylolpropane (77-99-6)		
Carcinogenicity	Not classified	
IARC group	No data available	
TAKE group		
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.	
Titanium dioxide (13463-67-7)		
Reproductive toxicity	Not classified	
Aluminum hydroxide (21645-51-2)		
Reproductive toxicity	Not classified	
Amorphous Silica (7631-86-9)		
Reproductive toxicity	Not classified	
Zirconium dioxide (1314-23-4)		
Reproductive toxicity	Not classified	
Trimethylolpropane (77-99-6)		
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
STOT-single exposure	: Not classified	
Titanium dioxide (13463-67-7)		
STOT-single exposure	Not classified	
Aluminum hydroxide (21645-51-2)		
STOT-single exposure	Not classified	
Amorphous Silica (7631-86-9)		
STOT-single exposure	Not classified	
Zirconium dioxide (1314-23-4)		
STOT-single exposure	Not classified	
Trimethylolpropane (77-99-6)		
STOT-single exposure	Not classified	
STOT-repeated exposure	: Not classified	
Titanium dioxide (13463-67-7)		
STOT-repeated exposure	Not classified	
Aluminum hydroxide (21645-51-2)		
STOT-repeated exposure	Not classified	
Amorphous Silica (7631-86-9)		
STOT-repeated exposure	Not classified	
Zirconium dioxide (1314-23-4)		
STOT-repeated exposure	Not classified	
Trimethylolpropane (77-99-6)		
STOT-repeated exposure	Not classified	
5101-tepeated exposure		
Aspiration hazard	: Not classified	
Viscosity, kinematic	: No data available	
Titanium dioxide (13463-67-7)		
Aspiration hazard	Not classified	
Aluminum hydroxide (21645-51-2)		
Aspiration hazard	Not classified	
Amorphous Silica (7631-86-9)		
Aspiration hazard	Not classified	
Zirconium dioxide (1314-23-4)		
Aspiration hazard	Not classified	
Trimethylolpropane (77-99-6)		
Aspiration hazard	Not classified	

# **SECTION 12: Ecological information**

#### 12.1. Toxicity Amorphous Silica (7631-86-9) 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static]) LC50 : fish 7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia) EC50 : Daphnia Trimethylolpropane (77-99-6) EC50 : Daphnia 13000 mg/l (Exposure time: 48 h - Species: Daphnia magna) **12.2. Persistence and degradability** No additional information available

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12.3. Bioaccumulative potential			
Amorphous Silica (7631-86-9)			
BCF fish 1	(no bioaccumulation expected)		
Zirconium dioxide (1314-23-4)			
BCF fish 1	(no bioaccumulation)		
Trimethylolpropane (77-99-6)			
BCF fish 1	0.14		
Log Pow	-2.37		

#### Mobility in soil 12.4. No additional information available

**12.5.** Other adverse effects Other adverse effects

: Not listed in Annexes to the Montreal Protocol..

#### **SECTION 13: Disposal considerations**

13.1. **Disposal methods** Ecology - waste materials

: Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.

#### **SECTION 14: Transport information**

**Department of Transportation (DOT)** In accordance with DOT Not applicable

#### **Transportation of Dangerous Goods** Not applicable

Transport by sea Not applicable

Air transport Not applicable

#### **SECTION 15: Regulatory information**

#### 15.1. US Federal regulations

Products	
CERCLA RQ	No data available

#### **OSHA**

Not regulated (29 CFR 1910.1001-1053).

#### SARA Title III

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Titanium dioxide (13463-67-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Aluminum hydroxide (21645-51-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Amorphous Silica (7631-86-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Zirconium dioxide (1314-23-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Trimethylolpropane (77-99-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

ANADA		
Titanium dioxide (13463-67-7)		
Listed on the Canadian DSL (Domestic Substances List)		
Aluminum hydroxide (21645-51-2)		
Listed on the Canadian DSL (Domestic Substances List)		
Amorphous Silica (7631-86-9)		
Listed on the Canadian DSL (Domestic Substances List)		
Zirconium dioxide (1314-23-4)		
Listed on the Canadian DSL (Domestic Substances List)		
Trimethylolpropane (77-99-6)		
Listed on the Canadian DSL (Domestic Substances List)		

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E	J-Regulations			
	Titanium dioxide (13463-67-7)			
	Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)			
	Aluminum hydroxide (21645-51-2)			
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)				
	Amorphous Silica (7631-86-9)			
	Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)			
	Zirconium dioxide (1314-23-4)			
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)				
	Trimethylolpropane (77-99-6)			
	Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)			
<b>N</b> T				
National regulations				
	Titanium dioxide (13463-67-7)			
	Listed on the AICS (Australian Inventory of Chemical Substances)			
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)				
	Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory			
Listed on the Japanese ISHL (Industrial Safety and Health Law)				
Listed on the Korean ECL (Existing Chemicals List)				
	Listed on NZIoC (New Zealand Inventory of Chemicals)			
	Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)			
	Listed on INSO (Mexican National Inventory of Chemical Substances)			

Listed on the TCSI (Taiwan Chemical Substance Inventory)

#### Aluminum hydroxide (21645-51-2)

Listed on the AICS (Australian Inventory of Chemical Substances)

- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

- Listed on NZIOC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

# Amorphous Silica (7631-86-9)

Listed on the AICS (Australian Inventory of Chemical Substances)

- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Japanese ISHL (Industrial Safety and Health Law)
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIOC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances)
- Listed on the TCSI (Taiwan Chemical Substance Inventory)

## Zirconium dioxide (1314-23-4)

Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIOC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

## Trimethylolpropane (77-99-6)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

Listed on the rest (ratwait Chemical Substance Inventory)

# 15.3. US State regulations

California Prop. 65

This product can expose you to Titanium dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
Titanium dioxide(13463-67-7)	U.S New Jersey - Right to Know Hazardous Substance List; U.S Pennsylvania - RTK (Right to Know) List

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
SECTION 16: Other information

H361	Suspected of damaging fertility or the unborn child
HMIS Rating	
Health	<ul> <li>1 Slight Hazard - Irritation or minor reversible injury possible</li> <li>* - Chronic (long-term) health effects may result from repeated overexposure</li> </ul>
Flammability	: 0 Minimal Hazard - Materials that will not burn
Physical	<ul> <li>0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.</li> </ul>
Personal protection	E - Safety glasses, Gloves, Dust respirator
Date of issue	: 09/21/2020
Data sources	: 1) HSDB (2005)
	<ol> <li>IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 93, p. 193 (2010)</li> <li>Carcinogenesis, Vol. 18, No. 2, p. 423 (1997)</li> </ol>
	4) Toxicological Sciences, Vol. 70, p. 86 (2002) 5) ACGIH (2001)
	6) IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 47, p. 307 (1989)
	7) The Annals of occupational Hygiene, Vol. 49, No. 6, p. 462 (2005)

Environmental, Safety & Health Administration Group TEL +81-59-345-6205 **SDS prepared by** Inorganic Products Quality Control Division TEL +81-59-345-6148

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.