INEOS Pigments

Safety Data Sheet

Issue date 08-May-2019 **Revision date** 09-May-2019 **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product name Titanium Oxychloride

UN/ID no UN3264
Synonyms Titanium oxide chloride

Recommended use of the chemical and restrictions on use

Recommended Use Production of titanium dioxide, chemical intermediate
Uses advised against For use in industrial installations only.

Details of the supplier of the safety data sheet

Manufacturer Address

INEOS Pigments USA Inc.
6752 Baymeadow Drive
Glen Burnie, MD, USA 21060
tele: 410-229-4400
fax: 410-229-4415

For further information, please contact

E-mail address Regulatory.query@cristal.com

24 Hour Emergency Phone Number

Emergency telephone Chemtrec (USA) 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label Elements

EMERGENCY OVERVIEW

DANGER

Hazard statements Causes severe skin burns and eye damage
May be harmful if inhaled

Physical Hazards May be corrosive to metals

Appearance	clear	**Physical State**	Liquid	**Odor**	pungent

Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Do not get in eyes, on skin, or on clothing
Do not breathe dust/fume/gas/mist/vapors/spray
Obtain special instructions before use

Precautionary Statements - Response
IF exposed
Immediately call a POISON CENTER or doctor/physician
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store in a dry place

Other Information

Hazards not otherwise classified (HNOC) Inhalation of vapors in high concentration may cause irritation of respiratory system

Other Hazards Corrosive to Metals.

Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Titanium oxide chloride

Chemical name	CAS No	weight-%	Trade secret
Water	7732-18-5	42-27%	*
Titanium Oxychloride	13780-39-7	34-36%	*
Hydrochloric acid	7647-01-0	18-22%	*

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4. FIRST AID MEASURES

FIRST AID MEASURES

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove contaminated clothing and shoes. Do not get in eyes, on skin, or on clothing.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician immediately.

Inhalation Remove from exposure, lie down. Artificial respiration and/or oxygen may be necessary. Call a physician or poison control center immediately.

Ingestion Do NOT induce vomiting. If swallowed. Clean mouth with water. If swallowed, call a poison control center or physician immediately. Potential for aspiration if swallowed.

Self-protection of the first aider Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms The product causes burns of eyes, skin and mucous membranes. May cause pulmonary edema.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Keep victim under observation.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Acid resistant foam Dry chemical Extinguishing powder

Unsuitable Extinguishing Media None known based on information supplied.

Specific hazards arising from the chemical Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Keep people away from and upwind of spill/leak. Wear protective gloves/protective clothing and eye/face protection. Do not get in eyes, on skin, or on clothing.

Environmental Precautions

Environmental Precautions Do not allow into any sewer, on the ground or into any body of water. Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for Containment Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Small Spill. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Neutralize with calcium hydroxide. Sweep up and shovel into suitable containers for disposal. Corrosive to metal. After cleaning, flush away traces with water.
Large Spill. Dike to collect large liquid spills. Prevent product from entering drains. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Take up mechanically, placing in appropriate containers for disposal. Following product recovery, flush area with water. Neutralize with calcium hydroxide. Dispose of contents/container to an approved waste disposal plant. Dispose of in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a cool, well-ventilated place. Keep/store only in original container. Bund storage facilities to prevent soil and water pollution in the event of spillage.

Packaging materials Corrosive to metal.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines .

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Alberta OEL	British Columbia OEL	Ontario TWA	Quebec OEL
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m³ Ceiling: 5 ppm Ceiling: 7 mg/m³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m³	Ceiling: 2 ppm Ceiling: 3 mg/m³	Ceiling: 2 ppm	CEV: 2 ppm	Ceiling: 5 ppm Ceiling: 7.5 mg/m³

Appropriate engineering controls

Engineering controls Ventilation systems
Ensure adequate ventilation, especially in confined areas

Individual protection measures, such as personal protective equipment

Eye/face Protection Tight sealing safety goggles. Face protection shield.

Skin and Body Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Odor pungent
Odor threshold No information available

Appearance clear
Color yellow

Property	Values	Remarks • Method
pH	<1	
Melting point/freezing point	< -40 °C	
Boiling point / boiling range	> 35 °C	

Flash Point		
Evaporation Rate		
Flammability (solid, gas)		
Flammability Limit in Air		
Upper flammability limit:	Not applicable	
Lower flammability limit:	Not applicable	
Vapor pressure	15 kPa	@ 30 °C
Vapor Density	1.15 (air = 1)	
Specific gravity	1.46	
Water solubility	Miscible in water	
Solubility in other solvents		
Partition coefficient		
Autoignition Temperature		
Decomposition temperature	>60	
Kinematic viscosity		
Dynamic viscosity		

Other Information

Softening point	No information available
Molecular weight	Not applicable
VOC content (%)	No information available
Density	No information available
Surface Area	No information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity Decomposes in contact with water to form hydrogen chloride gas.

Stability Stable under recommended storage conditions.

Possibility of hazardous reactions Reacts violently with water, Metals, Oxidizing agent, Cyanide compounds, Sulfides, Contact with acids liberates very toxic gas

Hazardous polymerization Hazardous polymerization does not occur

Conditions to Avoid Temperatures above 60 °C / 140 °F. Heat. Heating may release toxic and irritating hydrogen chloride gas.

Incompatible Materials Contact with metals may evolve flammable hydrogen gas, Water, caustic, Metals, alkali, reactive metals, cyanides, Sulfides, Strong oxidizing agents

Hazardous decomposition products Hydrogen chloride

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation. May cause pulmonary edema. (delayed).

Eye Contact Risk of serious damage to eyes.

Skin contact Causes severe burns.

Ingestion Ingestion causes burns of the upper digestive and respiratory tracts.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-

Hydrochloric acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes severe burns.

Serious eye damage/eye irritation Risk of serious damage to eyes.

Sensitization No sensitization responses were observed.

Germ Cell Mutagenicity None known. Not genotoxic in in vitro tests.

Carcinogenicity Not carcinogenic.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid 7647-01-0	-	Group 3	-	X

IARC (International Agency for Research on Cancer)
Group 3
Not classifiable as a human carcinogen

Reproductive Toxicity This product does not contain any known or suspected reproductive hazards.

STOT - single exposure Target Organs: Respiratory System

STOT - repeated exposure No information available

Chronic Toxicity Avoid repeated exposure.

Aspiration Hazard No information available.

Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity Not Classifiable.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid 7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50 static	-

Persistence and degradability Inorganic acid in aqueous solution. Not readily biodegradable.

Bioaccumulation Material does not bioaccumulate.

Mobility Soluble in water.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations. Empty containers must be tripled rinsed prior to disposal. Containers can be recycled after thorough cleaning. If recycling is not practical, dispose of container in compliance with local and regional laws.

14. TRANSPORT INFORMATION

DOT

UN/ID no	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (titanium oxychloride, hydrochloric acid)
Hazard Class	8
Packing group	II
Reportable Quantity (RQ)	HCl = 5000 lbs (2270 kg)

TDG

Proper Shipping Name	Not regulated

MEX

Proper Shipping Name	Not regulated

ICAO (air)

UN/ID no	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (titanium oxychloride, hydrochloric acid)
Hazard Class	8
Packing group	II

IATA

UN/ID no	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (titanium oxychloride, hydrochloric acid)
Hazard Class	8
Packing group	II

IMDG

UN/ID no	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (titanium oxychloride, hydrochloric acid)
Hazard Class	8
Packing group	II
EmS-No	F-A, S-B
Marine pollutant	No

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Does not comply
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Does not comply
KECL	Complies
PICCS	Does not comply
AICS	Complies
NZIoC	Complies
TCSI	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Hydrochloric acid - 7647-01-0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrochloric acid 7647-01-0	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

16. OTHER INFORMATION

Issue date	08-May-2019
Revision date	09-May-2019
Revision note	No information available
Other Information	This product is a pigment intended for industrial use. This product is not intended for consumption, cosmetic, pharmaceutical or medical end use. INEOS will not knowingly sell product for use into these applications

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 given is designed only as a guidance for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet