Thermo Fisher SCIENTIFIC

SAFETY DATA SHEET

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FSUT3940

Dodeca-Tungstosilicic acid hydrate

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

产品说明: Dodeca-Tungstosilicic acid hydrate Product Description: Dodeca-Tungstosilicic acid hydrate

 Cat No.:
 T/3940/48

 Synonyms
 None

 CAS No
 12027-43-9

 Molecular Formula
 H4-O4O-Si-W12

Supplier UK entity/business name

Fisher Scientific UK

Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name Thermo Fisher Scientific Janssen Pharmaceuticalaan 3a

2440 Geel, Belgium

Emergency Telephone Number Tel: 01509 231166

Chemtrec US: (800) 424-9300 Chemtrec EU: 001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical StateAppearanceOdorSolidLight yellowOdorless

Emergency Overview

Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

Classification of the substance or mixture

Skin Corrosion/Irritation	Category 1 C
Serious Eye Damage/Eye Irritation	Category 1
Chronic aquatic toxicity	Category 3

Label Elements



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Signal Word

Danger

Hazard Statements

H314 - Causes severe skin burns and eye damage

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention

P271 - Use only outdoors or in a well-ventilated area

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

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

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

None identified.

Health Hazards

Corrosive. Causes skin and eye burns.

Environmental hazards

Harmful to aquatic life with long lasting effects. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Tungstate(4-), [.mu.12-(orthosilicato(4-)-O:O:O':O':O':O':O':O'':O'':O''':O	12027-43-9	100
")]tetracosamuoxododecaoxododeca-, tetrahydrogen, hydrate		
Tungstate(4-),	12027-38-2	0
[.mu.12-[orthosilicato(4-)-O:O:O:O':O':O':O'':O'':O'':O''':O''']]tetracosamuoxododec		
aoxododeca-, tetrahydrogen		

SECTION 4. FIRST AID MEASURES

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. 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.

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Ingestion

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes.

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. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Environmental Precautions

Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

Storage

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

Specific Use(s)

Use in laboratories

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	China	Taiwan	Thailand	Hong Kong
Tungstate(4-),	-	TWA: 5 mg/m ³		-
[.mu.12-(orthosilicato(4-)-O:		_		
0:0:0':0':0':0':0":0":0"				
':O				
")]tetracosamuoxododeca				
oxododeca-, tetrahydrogen,				
hydrate				
Tungstate(4-),	-	TWA: 5 mg/m ³		-
[.mu.12-[orthosilicato(4-)-O:		_		
0:0:0':0':0':0":0":0":0"				
":O"]]tetracosamuoxodod				
ecaoxododeca-,				
tetrahydrogen				

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Tungstate(4-),	TWA: 3 mg/m ³	(Vacated) TWA: 5	$REL = 5 \text{ mg/m}^3 \text{ (TWA)}$	STEL: 10 mg/m ³ 15	
[.mu.12-(orthosilicato(4-)-O:	_	mg/m³	STEL: 10 mg/m ³	min	
0:0:0':0':0':0':0":0":0"		(Vacated) STEL: 10		TWA: 5 mg/m ³ 8 hr	
':O		mg/m³		_	
")]tetracosamuoxododeca		_			
oxododeca-, tetrahydrogen,					
hydrate					
Tungstate(4-),	TWA: 3 mg/m ³	(Vacated) TWA: 5	$REL = 5 \text{ mg/m}^3 \text{ (TWA)}$	STEL: 10 mg/m ³ 15	
[.mu.12-[orthosilicato(4-)-O:		mg/m³	STEL: 10 mg/m ³	min	
0:0:0':0':0':0":0":0":0":0"		(Vacated) STEL: 10		TWA: 5 mg/m ³ 8 hr	
":O""]]tetracosamuoxodod		mg/m³			
ecaoxododeca-,					
tetrahydrogen					

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Natural rubber See mai	rough time Glove thickness nufacturers - nendations	EU standard EN 374	Glove comments (minimum requirement)
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Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

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(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

Acidic

Solid

and maintained properly

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits Large scale/emergency use

> are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure Small scale/Laboratory use

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

Handle in accordance with good industrial hygiene and safety practice. **Hygiene Measures**

Environmental exposure controls Prevent product from entering drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Light yellow **Appearance Physical State** Solid

Odorless Odor

Odor Threshold No data available

рH 1.98

25 °C / 77 °F Melting Point/Range

Softening Point No data available

Boiling Point/Range No information available

Flash Point Not applicable Method - No information available

Not applicable **Evaporation Rate** Solid

No information available Flammability (solid,gas) No data available **Explosion Limits**

Vapor Pressure No information available

Vapor Density Not applicable Solid

Specific Gravity / Density 4.5

No data available **Bulk Density**

Water Solubility Soluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Autoignition Temperature No data available **Decomposition Temperature** No data available **Viscosity** Not applicable

No information available **Explosive Properties**

Oxidizing Properties No information available

Molecular Formula H4-O4O-Si-W12 **Molecular Weight** 2878.2895

SECTION 10. STABILITY AND REACTIVITY

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Stable under normal conditions. Stability

Hazardous Reactions None under normal processing.

Hazardous Polymerization No information available.

Conditions to Avoid None known.

Materials to avoid Strong bases.

Hazardous Decomposition Products Silicon dioxide. Tungsten oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;

Category 1 C (b) skin corrosion/irritation;

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

No data available Respiratory No data available Skin

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

No data available (g) reproductive toxicity;

No data available (h) STOT-single exposure;

No data available (i) STOT-repeated exposure;

No information available. **Target Organs**

Not applicable (j) aspiration hazard;

Solid

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects May cause long-term adverse effects in the environment. Do not allow material to

> contaminate ground water system. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances

which are hazardous for the environment.

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Persistence and Degradability Product contains heavy metals. Discharge into the environment must be avoided. Special

pre-treatment is necessary

Persistence May persist, based on information available. Degradability Not relevant for inorganic substances.

Degradation in sewage Contains substances known to be hazardous to the environment or not degradable in waste treatment plant

water treatment plants.

Bioaccumulative Potential May have some potential to bioaccumulate

Mobility in soil The product is water soluble, and may spread in water systems. Will likely be mobile in the

environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused

Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives

on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Waste codes should be assigned by the user based on the application for which the product Other Information

was used. Do not empty into drains. Solutions with low pH-value must be neutralized before

discharge. Do not flush to sewer. Large amounts will affect pH and harm aquatic

organisms. Do not let this chemical enter the environment.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN3260

Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s.

Tungstate(4-), [.mu.12-(orthosilicato(4-)-O:O:O:O':O':O':O':O'':O'':O'':O'':O **Technical Shipping Name**

")]tetracosa-.mu.-oxododecaoxododeca-, tetrahydrogen, hydrate

Hazard Class Packing Group Ш

IMDG/IMO

UN-No UN3260

Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s.

Technical Shipping Name

")]tetracosa-.mu.-oxododecaoxododeca-, tetrahydrogen, hydrate

Hazard Class 8 Ш **Packing Group**

IATA

UN-No UN3260

Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s.

Tungstate(4-), [.mu.12-(orthosilicato(4-)-O:O:O':O':O':O':O':O":O":O":O":O **Technical Shipping Name**

")]tetracosa-.mu.-oxododecaoxododeca-, tetrahydrogen, hydrate

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Hazard Class Packing Group Ш

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, Australia, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (KECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

Component	The Inventory of Hazardous Chemicals (2015 Edition)		TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Tungstate(4-), [.mu.12-(orthosilicato(4 -)-O:O:O:O':O':O':O':O' ':O":O":O":O "')]tetracosamuoxod odecaoxododeca-, tetrahydrogen, hydrate		-	X	-	-	-	•	-			X	
Tungstate(4-), [.mu.12-[orthosilicato(4 -)-O:O:O:O':O':O':O'':O ":O":O":O":O"]]tetrac osamuoxododecaox ododeca-, tetrahydrogen		-	Х	Х	234-719-8	Х	Х	Х	Х	Х	Х	KE-35415

National Regulations

SECTION 16. OTHER INFORMATION

Creation Date 10-Feb-2015 **Revision Date** 28-Feb-2025 **Revision Summary** Not applicable.

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS - Chemical Abstracts Service

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

Substances/EU List of Notified Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances **IECSC** - Chinese Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances NZIoC - New Zealand Inventory of Chemicals

KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

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DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration **PBT** - Persistent, Bioaccumulative, Toxic

Transport Association

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

ICAO/IATA - International Civil Aviation Organization/International Air

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from

Ships

ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

PNEC - Predicted No Effect Concentration

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

EC50 - Effective Concentration 50%

LD50 - Lethal Dose 50%

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

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