SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supercedes date 26-Jul-2021 **Revision date** 13-Oct-2025 **Revision Number** 4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s)	13674
Safety data sheet number	13674
Product Name	2,5,7,10-TETRAOXAUNDECANE (TOU)
EC Number	224-631-8
CAS No	4431-83-8
Synonyms	TOU, TOU LW
Pure substance/mixture	Substance

Contains 2,5,7,10-TETRAOXAUNDECANE

Formula	C7H16O4
Molecular weight	164.2 g/mol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Manufacture of substance Chemical intermediate Formulation & (re)packing of substances and mixtures. Coatings paint Thinner Paint remover Laboratory reagent Washing and cleaning products Additive Solvent Industrial use Professional use Consumer use
Uses advised against	Food industry Food/Feed additive Fabrics, textiles and apparel Cosmetics Personal care

1.3. Details of the supplier of the safety data sheet

Supplier
Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Reproductive toxicity	Category 2 - (H361)

2.2. Label elements

Contains 2,5,7,10-TETRAOXAUNDECANE

Signal word
Warning

Hazard statements
H361f - Suspected of damaging fertility

Precautionary statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
2,5,7,10-TETRAOXAUNDECANE 4431-83-8	>= 99 %	224-631-8	-	Repr. 2 (H361f)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible). Never give anything by mouth to an unconscious person. Show this safety data sheet to the doctor in attendance.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.

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. Get medical attention if symptoms occur.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if symptoms occur.

Ingestion Rinse mouth thoroughly with water. Do NOT induce vomiting. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

Eyes May cause slight eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical, CO2, alcohol-resistant foam or water spray.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	When heated and in case of fire, toxic vapours/gases may be formed.
Hazardous combustion products	Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Pick up and transfer to properly labelled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes or clothing. Remove contaminated clothing and shoes. Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Hygroscopic. Minimize exposure to air and light.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Protect from direct sunlight. Store away from the following materials. Strong oxidising agents. Store contents under nitrogen. Keep at temperatures between -30 and 40 °C.
Packaging materials	Suitable container/equipment material:. Glass. Metal. Plastic container.

7.3. Specific end use(s)

Specific use(s)
See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

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

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
2,5,7,10-TETRAOXAUNDECANE 4431-83-8		7.5 mg/kg bw/day [4] [6]	5.92 mg/m³ [4] [6]

[4] Systemic health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
2,5,7,10-TETRAOXAUNDECANE 4431-83-8	0.3 mg/kg bw/day [4] [6]	0.893 mg/kg bw/day [4] [6]	1.04 mg/m³ [4] [6]

[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
2,5,7,10-TETRAOXAUNDECANE 4431-83-8	62.54 mg/L		6.25 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
2,5,7,10-TETRAOXAUNDECANE 4431-83-8	234.64 mg/kg sediment dw	23.46 mg/kg sediment dw	10 mg/L	542.67 µg/kg soil dw	

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection Wear suitable gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Short term	Polyvinyl chloride (PVC)	1.2 mm	> 60 minutes

Skin and body protection Wear appropriate clothing to prevent reasonably probable skin contact. Wear suitable protective clothing.

Respiratory protection Use appropriate respiratory protection.
Particulate filter, type P2.

General hygiene considerations Wash hands before breaks and immediately after handling the product. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Colour	Colourless
Odour	Characteristic.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	-65 °C	
Initial boiling point and boiling range	201.5 °C	
Flammability		The product is not flammable.
Flammability Limit in Air		
Upper flammability or explosive limits	38.2%	
Lower flammability or explosive limits	0.75%	
Flash point	84 °C	(ASTM D93).
Autoignition temperature	210 °C	
Decomposition temperature		No information available.
pH		Not applicable.
pH (as aqueous solution)		No information available.
Kinematic viscosity	1.532 mm²/s	
Dynamic viscosity		No information available.
Water solubility	Soluble in water 1000 g/l	
Solubility(ies)		No information available.
Partition coefficient	log Kow: -0.69	OECD 107.
Vapour pressure	0.22 mbar	

	≈ 2 hPa	@ 20 °C. OECD 104. @ 50 °C. OECD 104.
Relative density	0.9921	
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		Not applicable.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	Not considered to be explosive.	
Oxidising properties	Does not meet the criteria for classification as oxidising	

9.2. Other information

Molecular weight	164.2 g/mol
Refractive Index	1.414
Evaporation rate	17.38 (n-butyl acetate=1)

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Strong acids. Strong oxidising agents.

10.2. Chemical stability

Stability Stable under recommended storage conditions. May release 2-Methoxyethanol in case of hydrolysis.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react with the product:. Strong acids. Strong oxidising agents.

10.4. Conditions to avoid

Conditions to avoid Hygroscopic. Minimize exposure to air and light.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation Inhalation of vapours in high concentration may cause irritation of respiratory system.

Eye contact May cause slight eye irritation.

Skin contact Non-irritating during normal use.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2,5,7,10-TETRAOXAUNDECANE	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

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

Skin corrosion/irritation Non-irritating during normal use. Based on available data the classification criteria are not met.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 431					non-irritant
OECD 404					non-irritant
OECD 439					non-irritant

Serious eye damage/eye irritation May cause slight eye irritation. Based on available data the classification criteria are not met.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405					May cause slight eye irritation

Respiratory or skin sensitisation Based on available data the classification criteria are not met.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Exposure route	Results
OECD 442B			Not classified

Germ cell mutagenicity Based on available data the classification criteria are not met.

Component Information
2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Results
OECD 471		Not classified
OECD 476		Not classified
OECD 487		Not classified

Carcinogenicity Based on available data the classification criteria are not met.

Component Information
2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Results
		Not classified

Reproductive toxicity Suspected of damaging fertility.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Results
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Suspected of damaging fertility Oral

STOT - single exposure Based on available data the classification criteria are not met.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Not classified

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Fish Poecilia reticulata	LC50	> 100 mg/L		
EU Method C.11	Other aquatic organisms Toxicity to microorganisms	LC50	> 1000 mg/L		
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Crustacea Daphnia magna	EC50	> 100 mg/L		
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Algae Desmodesmus subspicatus	EC50	> 100 mg/L		
ECOSAR	Daphnia magna	NOEC	760.498 mg/L	30 days	
ECOSAR	Fish	NOEC	2562.913 mg/L	30 days	

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea

			microorganisms	
2,5,7,10-TETRAOXAUNDECANE	-	LC50: >100mg/L (96h, Poecilia reticulata)	-	-

12.2. Persistence and degradability

Persistence and degradability Not rapidly degradable.

2,5,7,10-TETRAOXAUNDECANE (4431-83-8)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	Biodegradation 4.3 %	Not readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
2,5,7,10-TETRAOXAUNDECANE	-0.69

12.4. Mobility in soil

Mobility in soil Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
2,5,7,10-TETRAOXAUNDECANE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards No
14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Authorisations and/or restrictions on use:
This product contains one or more substances subject to restriction (UK REACH - Annex XVII).
This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

Persistent Organic Pollutants
Not applicable

Export Notification requirements
Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)
Not applicable

The Ozone-Depleting Substances Regulations 2015
Not applicable

The Biocidal Products Regulations 2001 (as amended)
Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)
Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)
Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

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
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H361f - Suspected of damaging fertility

Legend
SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note ***Indicates updated data since last publication

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method

Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended) Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

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