

SAFETY DATA SHEET

REMOVE ALL

The safety data sheet is in accordance with Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	09.02.2016
Revision date	06.09.2022

1.1. Product identifier

Product name	REMOVE ALL
Synonyms	2,5,7,10-tetraoxaundecane
REACH Reg. No.	01-2119969502-33
CAS No.	4431-83-8
EC No.	224-631-8
Article no.	T483070
Formula	C7H16O4

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

Use of the substance / mixture	Solvent
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1.3. Details of the supplier of the safety data sheet**Downstream user**

Company name	Relekta AS
Office address	Innspurten 1A
Postal address	Postboks 6169 Etterstad
Postcode	0663
City	Oslo
Country	Norway
Telephone number	+47 22 66 04 00
Fax	+47 22 66 04 01
Email	post@relekta.no
Website	www.relekta.no
Enterprise No.	NO 831 881 372

1.4. Emergency telephone number

Emergency telephone	Telephone number: 112 Description: Within Sweden: Ask for Poison Information
	Telephone number: +47 22 59 13 00 Description: Norwegian Poison Information Center

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP classification, notes	Classification according to (EC) No.1272/2008: Not classified.
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2.2. Label elements

Other label information (CLP)	NOT CLASSIFIED according to health-, fire- and environmental hazard.
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2.3. Other hazards

PBT / vPvB	This substance is not classified as PBT or vPvB.
Health effect	Splashes in the eyes may cause redness and irritation.
Environmental effects	Not readily degradable in water.
Other hazards	The substance is not known or suspected to be endocrine disrupting.

SECTION 3: Composition / information on ingredients

3.1. Substances

Substance	Identification	Classification	Contents	Notes
2,5,7,10-Tetraoxaundecane	CAS No.: 4431-83-8 EC No.: 224-631-8 REACH Reg. No.: 01-2119969502-33		> 99 %	

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Emergency telephone number: see section 1.4.
Inhalation	Fresh air and rest. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing. Rinse immediately with plenty of water. Get medical attention if any discomfort continues.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses and open eyes wide apart. By prolonged rinsing, use luke warm water to avoid damage to the eye. Contact physician if discomfort continues.
Ingestion	Rinse mouth. Drink plenty of water. Do not induce vomiting. Get medical attention if any discomfort continues.

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

Acute symptoms and effects	Eye contact: May cause temporary eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Other information	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Small fires: ABC-pulver. Carbon dioxide (CO ₂). In case of major fire and large quantities: Alcohol resistant foam.
Improper extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Not flammable, but combustible.
Hazardous combustion products	May include, but is not limited to: Carbon dioxide (CO ₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Personal protective equipment	Firefighters who may be exposed to smoke or thermal decomposition products shall wear all available personal protective equipment (PPE) and SCBA mask.
Other information	Containers close to fire should be removed immediately or cooled with water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Keep away from sources of ignition - No smoking.
Personal protection measures	Use protective equipment as referred to in section 8.

6.2. Environmental precautions

Environmental precautionary measures	Do not allow to enter into sewer, water system or soil.
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6.3. Methods and material for containment and cleaning up

Clean up	Remove spillage with inert absorbent materials. Proposals for inert materials: sand, kieselguhr, universal binder. Collect in suitable containers and deliver as waste according to section 13. Flush with plenty of water to clean spillage area.
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6.4. Reference to other sections

Other instructions	See also sections 8 and 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Provide adequate ventilation. Avoid contact with eyes. Use protective equipment as referred to in section 8.
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Protective safety measures

Safety measures to prevent fire	Do not use near naked flames or glowing materials. Keep away from sources of ignition - No smoking. Use explosion-proof electrical / ventilating / lighting / / equipment.
Advice on general occupational hygiene	Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in tightly closed original container in a well-ventilated place. Store in a dark place. Store protected against heat.
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Conditions for safe storage

Advice on storage compatability	Keep away from: Oxidizing agents. Strong acids. Food and feed.
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7.3. Specific end use(s)

Specific use(s)	See section 1.2.
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SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Control parameters comments	Contains no substances with occupational exposure limit values. Norwegian regulation on exposure limits: FOR-2011-12-06-1358 Forskrift om tiltaks- og grenseverdier (sist endret gjennom FOR-2021-06-28-2248). Swedish regulation on exposure limits: Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden, "Hygieniska gränsvärden", AFS 2018:1
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DNEL / PNEC

Substance	2,5,7,10-Tetraoxaundecane
DNEL	Group: Consumer Route of exposure: Long-term inhalation (systemic) Value: 2,9 mg/m³ Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 11,75 mg/m³ Group: Consumer Route of exposure: Long-term dermal (systemic) Value: 0,83 mg/kg bw/d Group: Professional Route of exposure: Long-term dermal (systemic) Value: 1,67 mg/kg bw/d

PNEC	Group: Consumer
	Route of exposure: Long-term oral (systemic)
	Value: 0,83 mg/kg bw/d
	Route of exposure: Freshwater
	Value: 62,54 mg/l
	Route of exposure: Saltwater
	Value: 6,25 mg/l
	Route of exposure: Sewage treatment plant STP
	Value: 10 mg/l
	Route of exposure: Freshwater sediments
	Value: 234,64 mg/kg dw
	Route of exposure: Saltwater sediments
	Value: 23,46 mg/kg dw
	Route of exposure: Soil
	Value: 0,5427 mg/l

8.2. Exposure controls

Precautionary measures to prevent exposure

Technical measures to prevent exposure	Provide adequate ventilation. The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment. A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipment's suitability and durability will depend on application.
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Eye / face protection

Eye protection equipment	Description: Normally not necessary. Risk of splashes: Wear tight-fitting goggles or face shield. Reference to relevant standard: EN 166 (Personal eye-protection. Specifications).
Additional eye protection measures	Eye wash facilities should be available at the work place. Either a fixed eye wash facility connected to the drinking water (preferably warm water) or a portable disposable unit.

Hand protection

Suitable materials	Butyl rubber.
Breakthrough time	Value: > 480 minute(s)
Thickness of glove material	Value: 0,7 mm
Hand protection equipment	Description: Use protective gloves that are suitable for the application. The gloves abilities may vary among the different glove manufacturers. Reference to relevant standard: EN ISO 374 (Protective gloves against chemicals and micro-organisms).

Additional hand protection measures	EN 420 (Protective gloves - General requirements and test methods). Replace gloves if signs of wear and tear.
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Skin protection

Recommended protective clothing	Description: Ordinary workwear.
Additional skin protection measures	Emergency shower should be available at the workplace.

Respiratory protection

Recommended respiratory protection	Description: Normally not required.
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Appropriate environmental exposure control

Environmental exposure controls	Do not allow to enter into sewer, water system or soil.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Colourless. Clear
Odour	Characteristic.
Odour limit	Comments: Not determined.
pH	Comments: Not determined.
Melting point / melting range	Value: < -65 °C
Boiling point / boiling range	Value: 210 °C Test reference: 1013 hPa
Flash point	Value: 88 °C Method: ASTM D93 Closed Cup Comments: 1013 hPa
Evaporation rate	Value: 17,380 Comments: Butyl acetate = 1
Flammability	Non flammable.
Explosion limit	Value: 0,6 - 38,2 vol%
Vapour pressure	Value: 0,22 hPa Temperature: 25 °C
Vapour density	Comments: Not determined.
Particle characteristics	Comments: Not relevant for liquids.
Relative density	Value: 1,00 Test reference: Water = 1 Temperature: 20 °C
Density	Value: 995 kg/m ³

Solubility	Temperature: 20 °C Medium: Water Comments: 100 g/100 ml Temperature: 25 °C
Partition coefficient: n-octanol/ water	Value: -0,69 Method: OECD 107 Temperature: 22 °C
Auto-ignition temperature	Value: 210 °C Method: v/1013 hPa, ASTM E659-78
Decomposition temperature	Comments: Data lacking.
Viscosity	Value: 1 mPa.s Temperature: 20 °C Type: Dynamic Value: 1,532 mm ² /s Temperature: 40 °C Type: Kinematic
Explosive properties	Not explosive.
Oxidising properties	Not oxidizing.

9.2. Other information

Physical hazards

Content of VOC	Value: 100 % Value: 995 g/l
Number average molecular weight	Value: 164,20 g/mol

Other physical and chemical properties

Physical and chemical properties	Surface tension: 31,5 mN/m (25 °C)
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9.2.2. Other safety characteristics

Comments	Data lacking.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No test data available.
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10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use. Combustible liquid, fire hazard above flash point.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	May arise in contact with incompatible materials (see section 10.5) and/or under
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inappropriate conditions (see section 10.4).

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Do not heat up to temperatures close to the flash point.
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10.5. Incompatible materials

Materials to avoid	Oxidizing agents. Strong acids.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. See also section 5.2.
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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Substance	2,5,7,10-Tetraoxaundecane
Acute toxicity	Effect tested: LD50 Route of exposure: Oral Method: OECD 423 Value: > 5000 mg/kg Animal test species: Rat, Female Effect tested: LD50 Route of exposure: Dermal Method: OECD 402 Value: > 2000 mg/kg Animal test species: Rat, Male/Female Effect tested: NOAEL Route of exposure: Dermal Method: OECD 410 Duration: 4 week(s) Value: 1000 mg/kg bw /d Animal test species: Rabbit, Male/Female Comments: STOT-RE Effect tested: NOEC Route of exposure: Inhalation. Method: Subchronic toxicity test (NOAEC) Duration: 13 week(s) Value: 3127,89 mg/m³ Animal test species: Rat Comments: Reasoning by analogy STOT-RE Effect tested: NOAEL Route of exposure: Oral Value: 195 mg/kg bw /d Animal test species: Rat Comments: Reasoning by analogy

Repr. D (d)

Effect tested: NOAEL

Route of exposure: Oral

Value: 250 mg/kg bw /d

Animal test species: Rat

Comments: Reasoning by analogy

Repr. F (f)

Other information regarding health hazards

Assessment of acute toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of skin corrosion / irritation, classification	Based on available data, the classification criteria are not met.
Assessment of eye damage or irritation, classification	Based on available data, the classification criteria are not met.
Assessment of respiratory sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of skin sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of germ cell mutagenicity, classification	Based on available data, the classification criteria are not met.
Assessment of carcinogenicity, classification	Based on available data, the classification criteria are not met.
Assessment of reproductive toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - single exposure, classification	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data, the classification criteria are not met.
Assessment of aspiration hazard, classification	Based on available data, the classification criteria are not met.

Symptoms of exposure

In case of ingestion	No symptoms known or expected.
In case of skin contact	No symptoms known or expected.
In case of inhalation	No symptoms known or expected.
In case of eye contact	May cause temporary eye irritation.

11.2 Other information

Endocrine disruption	The substance is not known or suspected to be endocrine disrupting.
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SECTION 12: Ecological information

12.1. Toxicity

Substance	2,5,7,10-Tetraoxaundecane
Aquatic toxicity, fish	Toxicity type: Acute Value: > 100 mg/l Effect dose concentration: LC50 Exposure time: 96 hour(s) Species: Poecilia reticulata Method: OECD 203 Statisk Comments: Fresh water Toxicity type: Chronic Value: > 1 mg/l Effect dose concentration: NOEC Exposure time: 30 day(s) Species: Pisces Method: ECOSAR Comments: Fresh water
Substance	2,5,7,10-Tetraoxaundecane
Aquatic toxicity, algae	Toxicity type: Acute Value: > 100 mg/l Effect dose concentration: ERC50 Exposure time: 72 hour(s) Species: Desmodesmus subspicatus Method: OECD 201 Statisk test. Comments: Fresh water Toxicity type: Chronic Value: < 100 mg/l Effect dose concentration: NOEC Exposure time: 72 hour(s) Species: Desmodesmus subspicatus Method: OECD 201 Statisk test. Comments: Fresh water
Substance	2,5,7,10-Tetraoxaundecane
Aquatic toxicity, crustacean	Toxicity type: Acute Value: > 100 mg/l Effect dose concentration: EC50 Exposure time: 48 hour(s) Species: Daphnia magna Method: OECD 202 Statisk Comments: Fresh water. Toxicity type: Chronic Value: > 1 mg/l Effect dose concentration: NOEC Exposure time: 30 day(s) Species: Daphnia magna Method: ECOSAR
Ecotoxicity	The chemical is not classified as harmful to the environment.

12.2. Persistence and degradability

Persistence and degradability description/evaluation	Not readily biodegradable.
Substance	2,5,7,10-Tetraoxaundecane
Biodegradability	Value: 4,3 % Method: OECD 301D Test period: 28 day(s)

12.3. Bioaccumulative potential

Bioaccumulation, evaluation	Log Kow: -0,69 (22 °C). Will not bio-accumulate.
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12.4. Mobility in soil

Mobility	Expected to have high mobility in soil.
Absorption and desorption description	Koc = 1,424 log Koc = 0,154

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB.
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12.6. Endocrine disrupting properties

Endocrine disrupting properties	The substance is not known or suspected to be endocrine disrupting.
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12.7. Other adverse effects

Ozone depletion potential	Comments: None.
Global warming potential	Comments: None.
Additional ecological information	Do not allow to enter into sewer, water system or soil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Do not empty into drains. Deposit or incinerate according to local regulation. The waste code (EWC-Code) is intended as a guide. The user must select a code if the use differs from the one mentioned below.
Appropriate methods of disposal for the contaminated packaging	Empty and cleaned packaging may be recycled.
EWC waste code	EWC waste code: 070799 wastes not otherwise specified Classified as hazardous waste: No

SECTION 14: Transport information

Dangerous goods	No
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14.1. UN number

Comments	Not relevant.
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14.2. UN proper shipping name

Comments	Not relevant.
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14.3. Transport hazard class(es)

Comments	Not relevant.
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14.4. Packing group

Comments	Not relevant.
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14.5. Environmental hazards

Comments	Not relevant.
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14.6. Special precautions for user

Special safety precautions for user	Not relevant.
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14.7. Maritime transport in bulk according to IMO instruments

Transport in bulk (yes/no)	No
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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture**

Restriction of chemicals according to Annex XVII (REACH)	None.
Nanomaterial	No
References (laws/regulations)	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments. Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH Regulation), with later amendments. European Waste Catalogue and Hazardous Waste List Norwegian regulations on waste. no. 930/2004, from the Ministry of Environment. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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SECTION 16: Other information

Supplier's notes	The information contained in this SDS must be made available to all those who handle the product.
Key literature references and sources for data	Suppliers Safety data sheet dated: 2022-06-13

Abbreviations and acronyms used	DNEL: Derived No Effect Level EWC: European Waste Code (a code from the EU's common classification system for waste) EC50: The effective concentration of substance that causes 50% of the maximum response ErC50: ErC50 means EC50 in terms of reduction of growth rate, (ErC50 = EC50(growth rate)) Koc: The adsorption coefficient normalized to the organic carbon content of the soil, is an indicator of the binding capacity of a chemical on organic matter of soil and sewage sludge. LC50: Median concentration lethal to 50% of a test population. LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%. Log Kow: Partition coefficient: n-octanol / water Log Pow: Partition coefficient: n-octanol / water NOAEC: No observed adverse effect concentration (No observed adverse effect concentration). NOAEL: No observed adverse effect level. NOEC: No observed effect concentration OECD: Organisation for Economic Cooperation and Development. PBT: Persistent, Bioaccumulative and Toxic PNEC: Predicted No Effect Concentration VOC: Volatile Organic Compounds vPvB: very Persistent and very Bioaccumulative
Information added, deleted or revised	Relevant changes compared to the previous version of the safety data sheet are indicated with vertical lines in the left margin.
Checking quality of information	This SDS is quality controlled by Kiwa Kompetanse AS in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2015.
Version	4
Prepared by	Kiwa Kompetanse AS, v/ Milvi Rohtla