

# SAFETY DATA SHEET

Based upon Regulation (EC) No. 1907/2006, as amended by Regulation (EC) No. 453/2010



## REMOVE ALL

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

#### 1.1. Product identifier

Product name : REMOVE ALL  
Registration number REACH : 01-2119969502-33  
Product type REACH : Substance/mono-constituent  
CAS number : 4431-83-8  
EC number : 224-631-8  
Molecular mass : 164.20 g/mol  
Formula : C7H16O4

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

##### 1.2.1 Relevant identified uses

Solvent

##### 1.2.2 Uses advised against

No uses advised against known

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier of the safety data sheet

TEC7\*  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@tec7.be  
\*TEC7 is a registered trademark of Novatech International  
Industrielaan 5B

##### Manufacturer of the product

Novatech International N.V.  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@tec7.be

#### 1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch):  
+32 14 58 45 45 (BIG)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

#### 2.2. Label elements

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

#### 2.3. Other hazards

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
2,5,7,10-tetraoxaundecane 01-2119969502-33	4431-83-8 224-631-8	C>99 %			Mono-constituent

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## 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

#### After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

#### After skin contact:

Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.

#### After eye contact:

Rinse with water. Take victim to an ophthalmologist if irritation persists.

#### After ingestion:

Rinse mouth with water. Consult a doctor/medical service if you feel unwell.

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

#### 4.2.1 Acute symptoms

##### After inhalation:

No effects known.

##### After skin contact:

Not irritating.

##### After eye contact:

Slight irritation.

##### After ingestion:

No effects known.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### 5.1.1 Suitable extinguishing media:

Water spray. Polyvalent foam. BC powder. Carbon dioxide.

#### 5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

### 5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO<sub>2</sub> are formed.

### 5.3. Advice for firefighters

#### 5.3.1 Instructions:

No specific fire-fighting instructions required.

#### 5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

No naked flames.

#### 6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves. Protective clothing.

##### Suitable protective clothing

See heading 8.2

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## 6.2. Environmental precautions

Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

## 6.3. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## 6.4. Reference to other sections

See heading 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1. Precautions for safe handling

Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed.

### 7.2. Conditions for safe storage, including any incompatibilities

#### 7.2.1 Safe storage requirements:

Store in a dark area. Keep container in a well-ventilated place. Meet the legal requirements.

#### 7.2.2 Keep away from:

Heat sources, oxidizing agents, (strong) acids.

#### 7.2.3 Suitable packaging material:

No data available

#### 7.2.4 Non suitable packaging material:

No data available

### 7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

##### b) National biological limit values

If limit values are applicable and available these will be listed below.

#### 8.1.2 Sampling methods

If applicable and available it will be listed below.

#### 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

#### 8.1.4 DNEL/PNEC values

##### DNEL/DMEL - Workers

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	11.75 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	1.67 mg/kg bw/day	

##### DNEL/DMEL - General population

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.9 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	0.83 mg/kg bw/day	
	Long-term systemic effects oral	0.83 mg/kg bw/day	

##### PNEC

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Compartments	Value	Remark
Fresh water	62.54 mg/l	
Marine water	6.25 mg/l	
STP	10 mg/l	
Fresh water sediment	234.64 mg/kg sediment dw	
Marine water sediment	23.46 mg/kg sediment dw	

Reason for revision: CLP-ATP4

Publication date: 2013-02-08

Date of revision: 2015-06-16

Revision number: 0201

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Soil	542.67 µg/kg soil dw
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## 8.1.5 Control banding

If applicable and available it will be listed below.

## 8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

### 8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

Respiratory protection not required in normal conditions.

#### b) Hand protection:

Gloves.

#### c) Eye protection:

Eye protection not required in normal conditions.

#### d) Skin protection:

Protective clothing.

### 8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available
Colour	Colourless
Particle size	Not applicable (liquid)
Explosion limits	0.6 - 38.2 vol %
Flammability	Material presenting a fire hazard
Log Kow	-0.69 ; Experimental value ; OECD 107
Dynamic viscosity	No data available
Kinematic viscosity	1.532 mm <sup>2</sup> /s ; 25 °C
Melting point	< -65 °C
Boiling point	210 °C
Flash point	92 °C ; Open cup ; 1013 hPa ; ASTM D92
Evaporation rate	No data available
Relative vapour density	No data available
Vapour pressure	22.5 hPa ; 20 °C
Solubility	water ; Complete
Relative density	0.99 ; 20 °C
Decomposition temperature	No data available
Auto-ignition temperature	210 °C ; 1013 hPa ; ASTM E659-78
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available

### 9.2. Other information

Surface tension	31.5 mN/m ; 25 °C
Absolute density	992 kg/m <sup>3</sup> ; 20 °C

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Temperature above flashpoint: higher fire/explosion hazard.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Reacts with (strong) oxidizers and with (some) acids.

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## 10.4. Conditions to avoid

Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

## 10.5. Incompatible materials

Oxidizing agents, (strong) acids.

## 10.6. Hazardous decomposition products

Upon combustion: CO and CO<sub>2</sub> are formed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### 11.1.1 Test results

##### Acute toxicity

REMOVE ALL

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 423	> 5000 mg/kg bw		Rat (female)	Experimental value	
Skin	LD50	OECD 402	> 2000 mg/kg bw		Rat (male/female)	Experimental value	
Inhalation						Data waiving	

##### Conclusion

Not classified for acute toxicity

##### Corrosion/irritation

REMOVE ALL

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	
Not applicable (in vitro test)	Not corrosive	OECD 431		4 hours	Reconstructed human epidermis	Experimental value	
Skin	Not irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

##### Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

##### Respiratory or skin sensitisation

REMOVE ALL

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Other			Mouse (female)	Experimental value	

##### Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

##### Specific target organ toxicity

REMOVE ALL

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal	NOAEL	OECD 410	1000 mg/kg bw/day		No effect	28 day(s)	Rabbit (male/female)	Experimental value
Inhalation	NOAEC	Subchronic toxicity test	3127.89 mg/m <sup>3</sup> air		No effect	13 week(s)		Read-across

##### Conclusion

Not classified for subchronic toxicity

##### Mutagenicity (in vitro)

REMOVE ALL

Result	Method	Test substrate	Effect	Value determination
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Negative with metabolic activation, negative without metabolic activation	OECD 487	Human lymphocytes	No effect	Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value

## Mutagenicity (in vivo)

### REMOVE ALL

No (test)data available

## Carcinogenicity

### REMOVE ALL

No (test)data available

## Reproductive toxicity

### REMOVE ALL

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Developmental toxicity study	195 mg/kg bw/day			No effect		Read-across
Maternal toxicity	NOAEL		250 mg/kg bw/day			No effect		Read-across
Effects on fertility								Data waiving

### Conclusion CMR

Not classified for reprotoxic or developmental toxicity

Not classified for mutagenic or genotoxic toxicity

Not classified for carcinogenicity

## Toxicity other effects

### REMOVE ALL

No (test)data available

## Chronic effects from short and long-term exposure

### REMOVE ALL

No effects known.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### REMOVE ALL

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	> 100 mg/l		Pisces			Experimental value
Acute toxicity invertebrates	EC50	OECD 202	> 100 mg/l	48 h	Daphnia magna			Experimental value
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 100 mg/l	72 h	Algae			Experimental value

### Conclusion

Slightly harmful to fishes

Slightly harmful to invertebrates (Daphnia)

Slightly harmful to algae

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

### 12.2. Persistence and degradability

#### REMOVE ALL

#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	4.3 %	28 day(s)	Experimental value

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## Conclusion

Not readily biodegradable in water

## 12.3. Bioaccumulative potential

REMOVE ALL

### BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF		3.126			Literature study

### Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-0.69		Experimental value

## Conclusion

Low potential for bioaccumulation (BCF < 500)

## 12.4. Mobility in soil

REMOVE ALL

### (log) Koc

Parameter	Method	Value	Value determination
log Koc		1.517	

## Conclusion

Highly mobile in soil

## 12.5. Results of PBT and vPvB assessment

Substance does not meet the criteria of PBT, nor the criteria of vPvB according to Annex XIII of Regulation (EC) No 1907/2006, so is neither PBT nor vPvB.

## 12.6. Other adverse effects

REMOVE ALL

### Global warming potential (GWP)

Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)

### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1. Waste treatment methods

#### 13.1.1 Provisions relating to waste

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

07 07 99 (wastes from the MFSU of fine chemicals and chemical products not otherwise specified: wastes not otherwise specified). Depending on branch of industry and production process, also other waste codes may be applicable. Can be considered as non hazardous waste according to Directive 2008/98/EC.

#### 13.1.2 Disposal methods

Remove to an authorized waste incinerator for solvents with energy recovery. Remove waste in accordance with local and/or national regulations. Do not discharge into the sewer. Do not discharge into surface water.

#### 13.1.3 Packaging/Container

No data available.

## SECTION 14: Transport information

### Road (ADR)

#### 14.1. UN number

Transport	Not subject
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#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

#### 14.4. Packing group

Packing group	
Labels	

#### 14.5. Environmental hazards

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# REMOVE ALL

Environmentally hazardous substance mark	no
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## 14.6. Special precautions for user

Special provisions	
Limited quantities	

## Rail (RID)

### 14.1. UN number

Transport	Not subject
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### 14.2. UN proper shipping name

### 14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

### 14.4. Packing group

Packing group	
Labels	

### 14.5. Environmental hazards

Environmentally hazardous substance mark	no
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### 14.6. Special precautions for user

Special provisions	
Limited quantities	

## Inland waterways (ADN)

### 14.1. UN number

UN number	9003
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### 14.2. UN proper shipping name

Proper shipping name	Substances with a flash-point above 60 °C and not more than 100 °C
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### 14.3. Transport hazard class(es)

Class	9
Classification code	

### 14.4. Packing group

Packing group	
Labels	none.

### 14.5. Environmental hazards

Environmentally hazardous substance mark	no
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### 14.6. Special precautions for user

Special provisions	
Limited quantities	

## Sea (IMDG/IMSBC)

### 14.1. UN number

Transport	Not subject
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### 14.2. UN proper shipping name

### 14.3. Transport hazard class(es)

Class	
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### 14.4. Packing group

Packing group	
Labels	

### 14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

### 14.6. Special precautions for user

Special provisions	
Limited quantities	

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	
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## Air (ICAO-TI/IATA-DGR)

### 14.1. UN number

Transport	Not subject
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### 14.2. UN proper shipping name

### 14.3. Transport hazard class(es)

Class	
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# REMOVE ALL

## 14.4. Packing group

Packing group	
Labels	

## 14.5. Environmental hazards

Environmentally hazardous substance mark	no
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## 14.6. Special precautions for user

Special provisions	
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
100 %	

#### National legislation The Netherlands

##### REMOVE ALL

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 03
Waterbezwaarlijkheid	11

#### National legislation Germany

##### REMOVE ALL

WGK	1; Classification water polluting based on the R-phrases in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 3)
TA-Luft	5.2.5

#### National legislation France

##### REMOVE ALL

No data available

#### National legislation Belgium

##### REMOVE ALL

No data available

#### Other relevant data

##### REMOVE ALL

No data available

### 15.2. Chemical safety assessment

A chemical safety assessment has been performed.

## SECTION 16: Other information

(\*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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