SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

XPR-100

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

1.1. Product identifier

Product name : XPR-100
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

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
🖷 +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

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

No other hazards known

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

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

If you feel unwell, seek medical advice.

After inhalation:

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

After skin contact:

Rinse with water. Do not apply (chemical) neutralizing agents without medical advice. Soap may be used. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Do not apply (chemical) neutralizing agents without medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. 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:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 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

6.2. Environmental precautions

Contain released product, 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. In finely divided state: use spark-/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 Threshold values

DNEL/DMEL - Workers

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	11.75 mg/m³	
	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/m³	
	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	
Soil	542.67 µg/kg soil dw	

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. In finely divided state: use spark-/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. Do not eat, drink or smoke during work.

a) Respiratory protection:

Respiratory protection not required in normal conditions.

b) Hand protection:

Protective gloves against chemicals (EN374).

Materials	Measured breakthrough time	Thickness	Protection index

butyl rubber	> 480 minutes	0.7 mm	Class 6

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	Non-flammable
Log Kow	-0.69 ; Experimental value ; OECD 107
Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1.532 mm²/s ; 25 °C
	1 mm²/s ; 40 °C
Melting point	< -65 °C
Boiling point	210 °C
Evaporation rate	17.380 ; Butyl acetate
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
Flash point	88 °C ; 1013 hPa ; ASTM D93 ; Closed cup
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/m³ ; 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

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. In finely divided state: use spark-/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 CO2 are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

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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	24 h	Rat (male / female)	Experimental value	
Inhalation						Data waiving	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

XPR-100

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	Single treatment without rinsing
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

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Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Not sensitizing	OECD 442B			Mouse (female)	Experimental value	

Conclusion

Not classified as sensitizing for skin
Not classified as sensitizing for inhalation

Specific target organ toxicity

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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/m³ air		No effect	13 week(s)	Rat	Read-across

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

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Result	Method	Test substrate	Effect	Value determination
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)

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No (test)data available

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

XPR-100

No (test)data available

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

XPR-100

	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

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

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No (test)data available

Chronic effects from short and long-term exposure

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No effects known.

SECTION 12: Ecological information

12.1. Toxicity

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	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 crustacea	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

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

12.2. Persistence and degradability

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Biodegradation water

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

Conclusion

Not readily biodegradable in water

12.3. Bioaccumulative potential

XPR-100

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF		3.126; Wet weight			Literature study

Log Kow

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

Conclusion

Not bioaccumulative

12.4. Mobility in soil

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(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

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Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Not included in the list of fluorinated greenhouse gases (Regulation (EU) 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

European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

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.

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

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

14.6. Special precautions for user

Special provisions	
Limited quantities	

Rail (RID)

14.1. UN number

Transport	Not subject

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

14.6. Special precautions for user

Special provisions	
Limited quantities	

Inland waterways (ADN)

14.1. UN number

UN number	9003

14.2. UN proper shipping name

Proper shipping name	Substances with a flash-point above 60 °C and not more than 100 °C

14.3. Transport hazard class(es)

Class	9
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	
Limited quantities	
Specific mention	Dangerous only when carried in tank vessels.

Sea (IMDG/IMSBC)

14.1. UN number

Transport	Not subject

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Class	

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	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number

Transport	Not subject

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Class	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no

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 %	
992.1 g/l	

National legislation Belgium

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No data available

National legislation The Netherlands

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Waterbezwaarlijkheid	B (4); Algemene Beoordelingsmethodiek (ABM)

National legislation France

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No data available

National legislation Germany

XPR-100

WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
TA-Luft	5.2.5

National legislation United Kingdom

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No data available

Other relevant data

XPR-100

No data available

15.2. Chemical safety assessment

No chemical safety assessment is required.

SECTION 16: Other information

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

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. 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.