according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



Propylal ≥99 % for synthesis

article number: 0795 date of compilation: 2018-08-24 Version: **1.0 en**

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

Product identifier 1.1

Identification of the substance **Propylal** Article number 0795

Registration number (REACH) 01-2120770520-61-xxxx

EC number 208-021-9 CAS number 505-84-0

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

Identified uses: laboratory and analytical use

laboratory chemical

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone: +49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data : Department Health, Safety and Environment

e-mail (competent person) : sicherheit@carlroth.de

1.4 **Emergency telephone number**

> Emergency information service Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification acc. to GHS

Section	Hazard class	Hazard class and cat- egory	Hazard state- ment
2.6	flammable liquid	(Flam. Liq. 3)	H226
4.1C	hazardous to the aquatic environment - chronic hazard	(Aquatic Chronic 3)	H412

2.2 **Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Warning Signal word

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Pictograms

GHS02



Hazard statements

H226 Flammable liquid and vapour

H412 Harmful to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P280 Wear protective gloves/eye protection.

Precautionary statements - response

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

with water [or shower].

Precautionary statements - storage

P403+P235 Store in a well-ventilated place. Keep cool.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Symbol(s)



H412 Harmful to aquatic life with long lasting effects.

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Propylal

Registration number (REACH) 01-2120770520-61-xxxx

EC number 208-021-9
CAS number 505-84-0
Molecular formula C7H16O2
Molar mass 132,2 g/mol

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SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. Vapours can form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. Explosive properties.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

• Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Ground/bond container and receiving equipment.

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Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection





Use safety goggle with side protection.

Skin protection





hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

· type of material

PVC: polyvinyl chloride

material thickness

1,2 mm

· breakthrough times of the glove material

>60 minutes (permeation: level 3)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection





Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

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Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state liquid (fluid)
Colour colourless

Odour this information is not available

Odour threshold No data available

Other physical and chemical parameters

pH (value) This information is not available.

Melting point/freezing point -97,3 °C Initial boiling point and boiling range 137,4 °C Flash point 26 °C

Evaporation rate no data available Flammability (solid, gas) not relevant (fluid)

Explosive limits

lower explosion limit (LEL)
 upper explosion limit (UEL)
 this information is not available

Explosion limits of dust clouds not relevant

Vapour pressure <0,02 bar at 20 °C

Density $0.83 \, {}^{9}/_{cm^3}$

Vapour density This information is not available.

Bulk density Not applicable

Relative density Information on this property is not available.

Solubility(ies)

Water solubility 3,65 $^{\rm g}$ / $_{\rm l}$ at 20 $^{\rm o}$ C

Partition coefficient

n-octanol/water (log KOW) 2,04 (21 °C) (ECHA)

Auto-ignition temperature 330 °C at 101.325 Pa - ECHA

Decomposition temperature no data available

Viscosity

• kinematic viscosity 0,77 mm²/s at 20 °C

Explosive properties Shall not be classified as explosive

Oxidising properties none

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9.2 Other information

Surface tension 23,43 ^{mN}/_m (25 °C)

Temperature class (EU, acc. to ATEX)

T2 (Maximum permissible surface temperature

on the equipment: 300°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of ignition. In case of warming: Vapours can form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser, Strong acid

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species	Source
oral	LD50	>2.000 ^{mg} / _{kg}	rat	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

• Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

data are not available

• If in eyes

data are not available

If inhaled

data are not available

• If on skin

data are not available

Other information

None

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
EC50	>16,37 ^{mg} / _l	aquatic invertebrates	ECHA	24 h
ErC50	>15,8 ^{mg} / _l	algae	ECHA	72 h

Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

Process of degradability 12.2

Not readily biodegradable. Theoretical Oxygen Demand: 2,42 $^{\rm mg}/_{\rm mg}$ Theoretical Carbon Dioxide: 2,33 $^{\rm mg}/_{\rm mg}$

Process	Degradation rate	Time
oxygen depletion	14,3 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)

2,04 (21 °C)

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Class

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

141	UN number	327	71
14.1	ON HUITIDEI	34/	/

14.2 UN proper shipping name **ETHERS, N.O.S.**

Hazardous ingredients Propylal

14.3 Transport hazard class(es)

14.4 Packing group III (substance presenting low danger)

14.5 Environmental hazards none (non-environmentally hazardous acc. to the dangerous goods regulations)

3 (flammable liquids)

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

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• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number 3271

Proper shipping name ETHERS, N.O.S.

Particulars in the transport document UN3271, ETHERS, N.O.S., (Propylal), 3, III, (D/E)

Class 3
Classification code F1
Packing group III

Danger label(s) 3



Emergency Action Code

Special provisions (SP) 274

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

Transport category (TC) 3

Tunnel restriction code (TRC) D/E

Hazard identification No 30

• International Maritime Dangerous Goods Code (IMDG)

UN number 3271

Proper shipping name ETHERS, N.O.S.

Particulars in the shipper's declaration UN3271, ETHERS, N.O.S., (Propylal), 3, III, 26°C c.c.

3YE

Class 3
Marine pollutant Packing group III
Danger label(s) 3



Special provisions (SP)

Excepted quantities (EQ)

Limited quantities (LQ)

EmS

F-E, S-D

Stowage category

A

• International Civil Aviation Organization (ICAO-IATA/DGR)

UN number 3271

Proper shipping name Ethers, n.o.s.

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Particulars in the shipper's declaration UN3271, Ethers, n.o.s., (Propylal), 3, III 3 Class IIIPacking group Danger label(s) 3



Special provisions (SP) А3 Excepted quantities (EQ) E1 Limited quantities (LQ) 10 L

SECTION 15: Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1 Relevant provisions of the European Union (EU)
 - Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) Not listed.
 - Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) Not listed.
 - Regulation 850/2004/EC on persistent organic pollutants (POP) Not listed.

Restrictions according to REACH, Annex XVII

Name of substance	CAS No	Wt%	Type of registration	Conditions of restric- tion	No
Propylal		100	1907/2006/EC annex XVII	R3	3
Propylal		100	1907/2006/EC annex XVII	R40	40

Legend

- 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,

- tricks and jokes,

- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
- Articles not complying with paragraph 1 shall not be placed on the market.
 Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:

- can be used as fuel in decorative oil lamps for supply to the general public, and,
 present an aspiration hazard and are labelled with R65 or H304,
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN)
- 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 (a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly

(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage'; (b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage'; (c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.

6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and

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Legend

fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

R40

- 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:

 - metallic glitter intended mainly for decoration,
- artificial snow and frost,
- 'whoopee' cushions,
- silly string aerosols
- imitation excrement,
- horns for parties,decorative flakes and foams,
- artificial cobwebs,
- stink bombs.

 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol displacements are above in market by logibly and indelibly with: pensers referred to above is marked visibly, legibly and indelibly with: For professional users only'.
- 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
- The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

Restrictions according to REACH, Title VIII

None.

 List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list not listed

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		
P5c	flammable liquids (cat. 2, 3)	5.000 50.000	51)	

Notation

Flammable liquids, categories 2 or 3 not covered by P5a and P5b

Directive 75/324/EEC relating to aerosol dispensers

Filling batch

Deco-Paint Directive (2004/42/EC)

VOC content	100 %	
Directive on industrial emissions (VOCs, 2010/75/EU)		
VOC content	100 %	

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

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Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

not listed

National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
CA	NDSL	substance is listed
EU	ECSI	substance is listed
KR	KECI	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

ECSI KECI

EC Substance Inventory (EINECS, ELINCS, NLP) Korea Existing Chemicals Inventory Non-domestic Substances List (NDSL) Taiwan Chemical Substance Inventory NDSL TCSI

Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code

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Abbr.	Descriptions of used abbreviations
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EÚ GHS)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H226	flammable liquid and vapour
H412	harmful to aquatic life with long lasting effects

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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