

RENOLIT ALKORPLUS 81025

SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH) & 1272/2008 (CLP)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name:	RENOLIT ALKORPLUS
Product Code:	RENOLIT ALKORPLUS 81025
Chemical Name:	tetrahydrofuran
CAS No.:	109-99-9
EC No.:	203-726-8
Synonyms:	Diethylene oxide, Tetramethylene oxide, THF

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

Identified use(s): Solvent, Industrial and Professional

1.3 Details of the supplier of the safety data sheet

Company Identification: RENOLIT Belgium NV
Industriepark De Bruwaan 9
B-9700 Oudenaarde
Belgium

Telephone: +32 5533 9711

Fax: +32 5531 9650

E-Mail (competent person): renolit.belgium@renolit.com

1.4 Emergency telephone number

Emergency Phone No. (24 h): +44 (0)1235 239 670 (24 hours, 7 days)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation (EC) No. 1272/2008 (CLP)

Flam. Liq. 2; H225

Eye Irrit. 2; H319

STOT SE 3; H335

EUH019

According to Directive 67/548/EEC & Directive 1999/45/EC

F; R11 – R19

Xi; R36/37

2.2.1 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):



Signal word(s):

Danger

Hazard statement(s):

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.



Precautionary statement(s):

P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

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<p>Supplemental Hazard Information:</p> <p>2.2.2 Label elements</p> <p>Hazard pictogram(s):</p> <p>Hazard Symbol:</p> <p>Risk Phrases:</p> <p>Safety Phrases:</p> <p>2.3 Other hazards</p>	<p>P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P312: Call a POISON CENTRE or doctor if you feel unwell.</p> <p>EUH019: May form explosive peroxides.</p> <p>According to Directive 67/548/EEC & Directive 1999/45/EC</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Highly flammable. Irritant.</p> <p>R11: Highly flammable.</p> <p>R19: May form explosive peroxides.</p> <p>R36/37: Irritating to eyes and respiratory system.</p> <p>S16: Keep away from sources of ignition - No smoking.</p> <p>S23: Do not breathe vapour.</p> <p>S29: Do not empty into drains.</p> <p>S24/25: Avoid contact with skin and eyes.</p> <p>S33: Take precautionary measures against static discharges.</p> <p>S36/37: Wear suitable protective clothing and gloves.</p> <p>S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</p> <p>Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Repeated and/or prolonged skin contact may cause irritation.</p>
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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

EC Classification No. 1272/2008

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard symbol(s) and hazard statement(s)
tetrahydrofuran	>99	109-99-9	203-726-8	-	H225, H319, H335, EUH019

EC Classification No. 67/548/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Risk Phrases and Safety Phrases
tetrahydrofuran	>99	109-99-9	203-726-8	-	R11, R19, R36/37

4. FIRST AID MEASURES

4.1 Description of first aid measures

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Inhalation:	Remove patient from exposure, keep warm and at rest. If symptoms persist, obtain medical attention.
Skin Contact:	Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If symptoms persist, obtain medical attention. Contaminated clothing should be thoroughly cleaned.
Eye Contact:	If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. Obtain medical attention.
Ingestion:	Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention.
4.2 Most important symptoms and effects, both acute and delayed	Irritating to eyes and respiratory system. Repeated and/or prolonged skin contact may cause irritation.
4.3 Indication of the immediate medical attention and special treatment needed	Have available eyewash bottle with clean water. If breathing is laboured, oxygen should be administered by qualified personnel.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media	
Suitable Extinguishing Media:	Water spray, foam, dry powder or CO ₂ .
Unsuitable Extinguishing Media:	None.
5.2 Special hazards arising from the substance or mixture	Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide.
5.3 Advice for fire-fighters	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep fire exposed containers cool by spraying with water. Flash Point (°C): -21 Flammable Limits (Lower) (%v/v): 1.5 Flammable Limits (Upper) (%v/v): 12 Auto Ignition Temperature (°C): 215

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Ensure adequate ventilation. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8). Contaminated clothing should be thoroughly cleaned.
6.2 Environmental precautions	Avoid release to the environment. Do not allow to enter drains,

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<p>6.3 Methods and material for containment and cleaning up</p>	sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
<p>6.4 Reference to other sections</p> <p>Other advice</p>	<p>Adsorb spillages onto sand, earth or any suitable adsorbent material. Sweep up carefully with non-sparking tools. Transfer to a container for disposal. Wash spill area with soapy water. Contaminated adsorbent must be removed in sealed, plastic lined drums and disposed of via an authorised waste disposal contractor.</p> <p>Personal Protection: See Section: 8.</p> <p>None.</p>

7. HANDLING AND STORAGE

<p>7.1 Precautions for safe handling</p>	<p>Eliminate sources of ignition. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Use non-sparking hand tools and explosion proof electrical equipment. Take precautionary measures against static discharges.</p> <p>Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. (See Section: 8).</p> <p>Do not eat, drink or smoke at the work place. Wash hands and exposed skin after use. Contaminated clothing should be thoroughly cleaned.</p>
<p>7.2 Conditions for safe storage, including any incompatibilities</p>	<p>Keep away from heat and sources of ignition. Keep from direct sunlight. Keep away from frost. Keep only in the original container in a cool, well-ventilated place.</p> <p>Suitable containers: Steel (drums).</p>
<p>7.3 Specific end use(s)</p>	<p>Solvent, Industrial and Professional</p>

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters EH40 – UK Occupational Exposure Limits

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
tetrahydrofuran	109-99-9	50	150	100	300	Sk (EH40)

Sk - Can be absorbed through skin.

France: 50 ppm, 150 mg/m³ (VME) ; 100 ppm, 300 mg/m³ (VLCT, ou VLE)

Spain : 50 ppm, 150 mg/m³ (VLA-ED) ; 100 ppm, 300 mg/m³ (VLA-EC) - via dérmica, VLI, VLB

USA: TWA = 50 ppm, STEL = 100 ppm

Germany: 2 mg/g (BGW)

8.2 Exposure controls

<p>8.2.1 Appropriate engineering controls</p>	<p>Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded.</p>
<p>8.2.2 Personal Protection</p> <p>Eye/face protection</p>	<p>Goggles giving complete protection to eyes. (EN 166)</p>

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Skin protection

Protective gloves. (EN 374)



Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. (BS EN 14387:2004+A1)



Other:

Apron or other light protective clothing, boots and plastic or rubber gloves.

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid.
Colour:	Colourless.
Odour:	Ether-like, Characteristic.
Boiling Point (°C):	65-66
Freezing Point (°C):	-108
Flash Point (°C):	-21 [Closed cup]
Auto Ignition Temperature (°C):	215
Vapour Density (Air=1):	2.5
Vapour Pressure (Pascal):	17,300 (20 °C); 58,600 (50 °C)
Specific Gravity:	0.9
Solubility (Water):	Miscible.
Solubility (Other):	Miscible with most organic solvents.
Dynamic viscosity:	0.5 mPas (20 °C)

9.2 Other information

Partition Coefficient:	Log Pow: 0.47
Explosive Properties:	May form explosive mixture with air particularly in enclosed spaces.

10. STABILITY AND REACTIVITY

10.1 Reactivity	No information available.
10.2 Chemical stability	Stable under normal conditions. May form explosive peroxides.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	Keep away from heat, sources of ignition and direct sunlight.
10.5 Incompatible materials	Oxidising agents. Acids. Alkalis.
10.6 Hazardous Decomposition Product(s)	May give off toxic fumes in a fire. Carbon monoxide, Carbon dioxide.

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Ingestion:	LD ₅₀ (oral/rat): >2000 mg/kg
Inhalation:	LD ₅₀ (inhalation/rat): 6.934 mg/l/ 4h
Skin Contact:	No information available.
Eye Contact:	No information available.

skin corrosion/irritation:

Repeated and/or prolonged skin contact may cause irritation.

Serious eye damage/irritation:

Irritating to eyes.

respiratory or skin sensitization:

Negative.

Mutagenicity:

There is evidence of mutagenic potential.

Carcinogenicity:

It is unlikely to present a carcinogenic hazard to man.

Reproductive toxicity:

No information available.

STOT-single exposure:

May cause respiratory irritation. Vapours may cause drowsiness and dizziness.

STOT-repeated exposure:

No information available.

Aspiration hazard:

Negative.

Other information:

No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity	LC ₅₀ (Fish): > 100 mg/l -96h EC50 (Algae): > 100 mg/l/24h WGK: 1 Log Pow: 0.47
12.2 Persistence and degradability	Not readily biodegradable.
12.3 Bioaccumulative potential	The product has low potential for bioaccumulation.
12.4 Mobility in soil	No information available.
12.5 Results of PBT and vPvB assessment	No information available.
12.6 Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Do not empty into drains; dispose of this material and its container in a safe way. To be disposed of as hazardous waste. Disposal should be in accordance with local, state or national legislation.
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14. TRANSPORT INFORMATION

14.1 UN number	2056
14.2 Proper Shipping Name	tetrahydrofuran
14.3 Transport hazard class(es)	3
14.4 Packing Group	II
14.5 Environmental hazards	Not classified as a Marine Pollutant.
14.6 Special precautions for user	Highly flammable. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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15. REGULATORY INFORMATION

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

This Safety Data Sheet was prepared in accordance with EC Regulation (EC) No. 1907/2006., Regulation (EC) No. 1272/2008 (CLP), Directive 67/548/EEC & Directive 1999/45/EC.

15.1 Chemical Safety Assessment

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16. OTHER INFORMATION

Full text of Hazard statements and Risk phrases for pure substances listed in section 3.

Hazard Symbol:

H225: Highly flammable liquid and vapour.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Risk Phrases:

R11: Highly flammable.
R19: May form explosive peroxides.
R36/37: Irritating to eyes and respiratory system.

The following sections contain revisions or new statements: 1-16.

Abbreviations:

CAS = Chemical Abstracts Service;
CNS = Central Nervous System;
EINECS = European Inventory of Existing Commercial Chemical Substances;
EC50 = Effective Concentration 50%;
IARC = International Agency for Research on Cancer;
IC50 = Inhibitory Concentration 50%;
LC50 = Lethal Concentration 50%;
LD50 = Lethal Dose 50%;
LTEL = Long Term Exposure Limit;
STEL = Short Term Exposure Limit;
TWA = Time Weighted Average;
EH40 = UK Occupational Exposure Limits
VLA-ED = Exposure limit value- Daily exposure (Valor Límite Ambiental-Exposición Diaria)
VLB = Biological Limit Values (Valores Límite Biológicos)
VLI= Indicative limit values
BGW= The biological limit
ThOD= theoretical oxygen demand

References:

IUCLID Chemical Data Sheets, IUCLID Export Files, OECD-IUCLID Export Files, EUSES Export Files,