



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**alwitra Evalon - flüssig**

Revision date: 26.04.2017

Product code: RCSO-AWT-002

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**Hazard statements**

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.

**Precautionary statements**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.

**Special labelling of certain mixtures**

- EUH019 May form explosive peroxides.

**2.3. Other hazards**

The components in this mixture do not meet the criteria for classification as PBT or vPvB.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Mixture of substances listed below with harmless additions.

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
109-99-9	tetrahydrofuran			70-100 %
	203-726-8	603-025-00-0	01-2119444314-46	
	Flam. Liq. 2, Carc. 2, Acute Tox. 4, Eye Irrit. 2, STOT SE 3, STOT SE 3; H225 H351 H302 H319 H335 H336 EUH019			

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

In case of troubles or persistent symptoms, consult an doctor/physician.  
Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person. No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.

**After inhalation**

Provide fresh air. In case of respiratory tract irritation, consult a physician.  
In case of irregular breathing or respiratory arrest, perform artificial respiration.

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#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, consult a physician.

#### After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

#### After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Have victim drink large quantities of water, with active charcoal if possible. Call a physician immediately.

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

Following eye contact: Causes serious eye irritation.

Following inhalation: May cause respiratory irritation.

After Ingestion: Harmful if swallowed.

Headache. Drowsiness. Dizziness.

Suspected of causing cancer.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Water spray. Fight larger fires with water spray jet or alcohol-resistant foam.

##### **Unsuitable extinguishing media**

High power water jet.

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

Vapours may form explosive mixtures with air. Vapours are heavier than air and will spread at floor level.

Possible ignition over greater distances. Thermal decomposition can lead to harmful gases and vapours. May form explosive peroxides.

#### **5.3. Advice for firefighters**

Co-ordinate fire-fighting measures to the fire surroundings. Wear a self-contained breathing apparatus and chemical protective clothing.

#### **Additional information**

Do not allow to enter into surface water or drains. Use water spray jet to protect personnel and to cool endangered containers.

### SECTION 6: Accidental release measures

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

Provide adequate ventilation. Keep away from sources of ignition - No smoking. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal precautions: refer to section 8.

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Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Provide adequate ventilation as well as local exhaustion at critical locations. Handle and open container with care.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Use explosion-proof machinery, apparatus, ventilation facilities, tools etc.

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

**Requirements for storage rooms and vessels**

Store only in original container. Keep container tightly closed in a cool, well-ventilated place. Protect against direct sunlight.

**7.3. Specific end use(s)**

sealant

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
109-99-9	Tetrahydrofuran	50	150		TWA (8 h)	WEL
		100	300		STEL (15 min)	WEL

**8.2. Exposure controls**

**Protective and hygiene measures**

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. Avoid skin, eye and clothing contact. After contact with skin, wash immediately with plenty of water and soap or a suitable cleaning agent.

**Eye/face protection**

Tightly fitting safety glasses with side shields.

**Hand protection**

Protect skin by using skin protective cream. Wear suitable gloves.

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Suitable material: Butyl rubber.

**Skin protection**

Full cover clothing covering arms and legs.

**Respiratory protection**

Use protective filter mask in case of short-term and low exposure; in case of intense or longer exposure, use respiratory protection device operating independently from circulating air.

Respirator with combination filter for vapour and particles. Filter type A-P2.

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**SECTION 9: Physical and chemical properties**

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

Physical state: liquid  
Colour: white  
Odour: like: Ether

**Test method**

pH-Value: not determined

**Changes in the physical state**

Melting point: not determined  
Initial boiling point and boiling range: 65 °C  
Flash point: -14 °C

**Flammability**

Gas: not determined

**Explosive properties**

The product is not explosive, however, formation of explosive mixtures are possible.

Lower explosion limits: 1,5 vol. %  
Upper explosion limits: 12,0 vol. %  
Ignition temperature: 215 °C

**Auto-ignition temperature**

Gas: not determined

Decomposition temperature: not determined

**Oxidizing properties**

not determined

Vapour pressure: 200 hPa  
(at 20 °C)

Density (at 20 °C): 0,92 g/cm<sup>3</sup>

Water solubility: completely miscible

Partition coefficient: not determined

Viscosity / dynamic: 1400 mPa·s ISO 2555  
(at 20 °C)

Viscosity / kinematic: not determined

Vapour density: not determined

Solvent content: ca. 80 %

**9.2. Other information**

No further information available.

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No dangerous reactivity under regular conditions.

**10.2. Chemical stability**

The product is stable under regular conditions.

**10.3. Possibility of hazardous reactions**

Avoid contact with oxidizing agents.

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In the presence of oxygen and light: May form explosive peroxides.

**10.4. Conditions to avoid**

No information available.

**10.5. Incompatible materials**

Oxygen. Oxidizing agents, strong.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to harmful gases and vapours.

In case of fire: It may produce hazardous fumes like carbon monoxide or carbon dioxide.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity**

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 579,2 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
109-99-9	tetrahydrofuran				
	oral	LD50 3000 mg/kg	Rat		

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer. (tetrahydrofuran)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause respiratory irritation. (tetrahydrofuran)

May cause drowsiness or dizziness. (tetrahydrofuran)

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

In a two-year study, the application of tetra hydrofuran in high doses led to tumors in the liver of female mice and the kidney of male rats. The significance of this findings for the human health is not clear.

**Further information**

The product is skin resorptive.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
109-99-9	tetrahydrofuran					
	Acute fish toxicity	LC50 mg/l	2820	96 h	Leuciscus idus (golden orfe)	
	Acute crustacea toxicity	EC50 mg/l	5930	48 h	Daphnia magna	

**12.2. Persistence and degradability**

Product is biodegradable.

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

The components in this mixture do not meet the criteria for classification as PBT or vPvB.

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Advice on disposal**

Disposal according to official regulations. Do not dispose with household waste.

Consult the local waste disposal expert about waste disposal. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

**Waste disposal number of waste from residues/unused products**

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

**Waste disposal number of contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

- 14.1. UN number:** UN 2056  
**14.2. UN proper shipping name:** TETRAHYDROFURAN, solution  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3

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Classification code: F1  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 33  
 Tunnel restriction code: D/E

**Inland waterways transport (ADN)**

**14.1. UN number:** UN 2056  
**14.2. UN proper shipping name:** TETRAHYDROFURAN, solution  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Limited quantity: 1 L  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number:** UN 2056  
**14.2. UN proper shipping name:** TETRAHYDROFURAN, solution  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Marine pollutant: Nein  
 Special Provisions: -  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 EmS: F-E, S-D

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number:** UN 2056  
**14.2. UN proper shipping name:** TETRAHYDROFURAN, solution  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Limited quantity Passenger: 1 L  
 Passenger LQ: Y341  
 Excepted quantity: E2  
 IATA-packing instructions - Passenger: 353



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IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	364
IATA-max. quantity - Cargo:	60 L

#### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

#### **14.6. Special precautions for user**

No special precautions known.

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

not applicable

### SECTION 15: Regulatory information

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

##### **EU regulatory information**

2004/42/EC (VOC): 80%

##### **Additional information**

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable  
Regulation (EC) No. 648/2004 (Detergents regulation): not applicable  
Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable  
Regulation (EC) No 689/2008 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).  
This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none  
This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

##### **National regulatory information**

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water contaminating class (D): 1 - slightly water contaminating

#### **15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
tetrahydrofuran

### SECTION 16: Other information

#### **Changes**

Version 14 - General update - 23.01.2017  
Version 15 - General update - 26.04.2017

#### **Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
BlmSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act  
CAS: Chemical Abstracts Service  
EC: Effective Concentration  
EG: European Community (Europäische Gemeinschaft)  
EN: European Norm  
IATA: International Air Transport Association  
IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in

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Bulk  
 ICAO: International Civil Aviation Organization  
 IMDG: International Maritime Code for Dangerous Goods  
 CLP: Classification, Labeling, Packaging  
 IUCLID: International Uniform Chemical Information Database  
 LC: Lethal concentration  
 LD: Lethal dose  
 log Kow: Octanol/water partition coefficient  
 MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships  
 OECD: Organisation for Economic Co-operation and Development  
 PBT: Persistent, bio-cumulative, toxic  
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail  
 TRGS: Technische Regeln für Gefahrstoffe  
 VOC: Volatile Organic Compounds  
 vPvB: very persistent and very bio-cumulative  
 VwVwS: Administrative Regulation for Water Pollutants  
 WGK: German Water Hazard Class  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 DNEL: Derived No Effect Level  
 PNEC: Predicted No Effect Concentration  
 TLV: Threshold Limiting Value  
 STOT: Specific Target Organ Toxicity

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Acute Tox. 4; H302	Calculation method
Eye Irrit. 2; H319	Calculation method
Carc. 2; H351	Calculation method
STOT SE 3; H335	Calculation method
STOT SE 3; H336	Calculation method

**Relevant H and EUH statements (number and full text)**

H225 Highly flammable liquid and vapour.  
 H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H336 May cause drowsiness or dizziness.  
 H351 Suspected of causing cancer.  
 EUH019 May form explosive peroxides.

**Further Information**

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*