

Safety data sheet according to 1907/2006/EC, Article 31**alwitra Quellschweißmittel (Solvent agent)****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**

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2. HAZARDS IDENTIFICATION*Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**Flam. Liq. 2 H225 Highly flammable liquid and vapour.**Eye Irrit. 2 H319 Causes serious eye irritation.**STOT SE 3 H335 May cause respiratory irritation.**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**Xi; Irritant**R36/37: Irritating to eyes and respiratory system.**F; Highly flammable**R11: Highly flammable.**R19: May form explosive peroxides.***Label elements***Labelling according to Regulation (EC) No 1272/2008**The substance is classified and labelled according to the CLP regulation.***Hazard pictograms**

GHS02



GHS07

Signal word Danger**Hazard statements***H225+EUH019 Highly flammable liquid and vapour. May form explosive peroxides.**H319 Causes serious eye irritation.**H335 May cause respiratory irritation.***- Precautionary statements***P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P241 Use explosion-proof electrical/ventilating/lighting/equipment.**P261 Avoid breathing dust/fume/gas/mist/vapours/spray.**P280 Wear protective gloves/protective clothing/eye protection/face protection.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

Safety data sheet according to 1907/2006/EC, Article 31**alwitra Quellschweißmittel (Solvent agent)**

P304+P340 *IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

P312 *Call a POISON CENTER or doctor/physician if you feel unwell.*

P405 *Store locked up.*

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTES

Chemical characterization: Substances Tetrahydrofuran C₄H₈O

CAS No. Designation:

109-99-9 tetrahydrofuran

Identification no(s):

EC number: 203-726-8

Index number: 603-025-00-0

4. FIRST AID MEASURES**Description of first aid measures**

General advice: Instantly remove any clothing soiled by the product.

After inhalation

Provide fresh-air circulation. If symptoms continue, consult a doctor. In case of respiratory failure or breathing irregularities, commence resuscitation or oxygen inhalation and immediately consult a doctor. In case of unconsciousness, place and transport the patient in a recovery position.

After skin contact

Instantly wash with water and soap and rinse thoroughly. If skin irritation persists, seek medical advice.

After eye contact Rinse immediately opened eye for several minutes under running water. Then consult doctor.

After swallowing

Do not induce vomiting. Administer medicinal carbon suspended in water. Call a doctor immediately.

Information for doctor Symptomatic treatment. Renew lipid coating of the skin in order to protect against dermatitis.

Most important symptoms and effects, both acute and delayed

Irritation of skin, eyes and respiratory tract. Headache, drowsiness and dizziness.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. FIRE-FIGHTING MEASURES**Extinguishing media****Suitable extinguishing agents**

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents Water with a full water jet.

Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures. In case of incomplete combustion carbon monoxide can arise. Fumes are heavier than air and distributed over ground. Inflammation is possible from a far distance.

Advice for firefighters

Protective equipment: Wear full protective suit with self-contained breathing apparatus.

Additional information Endangered containers in the surrounding area should be cooled with a water-hose.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment and keep unprotected persons away.

Extinguish naked flames. Remove flammable sources. No smoking. Avoid sparks. Avoid contact with skin, eyes and clothing. Avoid inhalation of fumes. Air contaminated rooms thoroughly. Protect against electrostatic sparks.

Safety data sheet according to 1907/2006/EC, Article 31

alwitra Quellschweißmittel (Solvent agent)



Environmental precautions:

Prevent material from reaching sewage system, holes and cellars.

Inform respective authorities in case product reaches water or sewage system.

If large amounts are released, the authorities must be informed.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose of contaminated material as waste according to item 13.

Reference to other sections Danger of explosion

7. HANDLING AND STORAGE

Handling

Precautions for safe handling

Keep containers tightly sealed.

Ensure good ventilation/exhaustion at the workplace. Avoid repeated or long-term skin contact.

Open and handle container with care.

Check for peroxides before beginning work.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities

Storage

Protect against direct sunlight, other sources of heat and ignition.

Keep containers tightly closed. Store in cool, dry conditions.

Requirements to be met by storerooms and containers:

Observe official regulations on storage and handling of water hazardous substances

Store in cool location.

Information about storage in one common storage facility:

According to guidelines of the VbF, flammable liquids should not be stored together.

Further information about storage conditions:

Attention should be paid to the guidelines of the VbF and the related technical regulations of the TRbF

Specific end use(s) No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical systems:

Room ventilation i.e. vacuum suction. Measures to be taken against electro-static sparks.

Control parameters

Components with critical values that require monitoring at the workplace:

109-99-9 tetrahydrofuran (50-100%)

WEL Short-term value: 300 mg/m³, 100 ppm

Long-term value: 150 mg/m³, 50 ppm

Sk

Additional information: The lists that were valid during the compilation were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

Keep away from food, beverages and fodder.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Gases, fumes and aerosols should not be inhaled.

Safety data sheet according to 1907/2006/EC, Article 31**alwitra Quellschweißmittel (Solvent agent)****Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Recommended filter device for short term use:

Filter A

Combination filter A-P2

Protection of hands: Solvent resistant gloves

Material of gloves

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

Material of gloves is recommended for a short-term single use to protect from splashes. For permanent usage contact manufacturer of gloves.

Eye protection: Tightly sealed safety glasses.

Body protection:

Standard protective working clothes, chemical resistant safety-shoes or wellingtons. If skin contact is possible, wear impenetrable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****General Information****Appearance:**

Form: Fluid

Colour: Colourless

Smell: characteristic

pH-value at 20°C: neutral

Change in condition

Melting point/Melting range: -108.5°C

Boiling point/Boiling range: 65.5°C

Flash point: -20°C

Ignition temperature: 212°C (DIN 51794 200 ml)

Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible.

May form explosive peroxides in the presence of light and air / oxygen.

Critical values for explosion:

Lower: 1.5 Vol %

Upper: 12 Vol %

Vapour pressure at 20°C: 217 mbar

Density at 20°C 0.8892 g/cm³

Solubility in / Miscibility with

Water: Fully miscible

Other information Evaporation number: 2,4 (Ether = 1) DIN 53170

molecular weight (weight average/Mw): 72,11 g/mol

10. STABILITY AND REACTIVITY**Reactivity****Chemical stability**

Thermal decomposition / conditions to be avoided: Can be distilled without decomposing at normal pressure.

Safety data sheet according to 1907/2006/EC, Article 31**alwitra Quellschweißmittel (Solvent agent)****Possibility of hazardous reactions**

Violent reaction with strong oxidizing agents. Formation of explosive peroxides in presence of air and light.

Conditions to avoid *No further relevant information available.*

Incompatible materials: *strong oxidising agents, oxygene*

Hazardous decomposition products: *Formation of carbon monoxide and carbon dioxide in case of fire.*

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects**

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral LD50 1650 mg/kg (rat)

Primary irritant effect:

on the skin: *Irritant to skin and mucous membranes.*

on the eye: *Irritant effect.*

Sensitization: *No sensitizing effect known.*

Additional toxicological information:

Vapours in higher concentration have an irritating effect on the upper respiratory tract. Very high concentrations may cause dizziness, headaches and unconsciousness.

12. ECOLOGICAL INFORMATION**Toxicity**

Aquatic toxicity: *No further relevant information available.*

Type of test Effective concentration Method Assessment

Goldorfe 2820	mg/l LC50	Daphnia	magna	5930	mg/l LC50
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Grünalge	3700 mg/l	toxische Grenzkonzentration
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Persistence and degradability *biodegradable*

Behaviour in environmental systems:

Bioaccumulative potential *no bioaccumulation*

Mobility in soil *No further relevant information available.*

Additional ecological information:

COD-value: *1572 mg/g*

AOX-indication: *The product does not contain any organically bonded halogen compounds (AOX).*

General notes:

Do not allow to enter drainage system, surface or ground water

Water hazard class 1 (Assessment by list): slightly hazardous for water.

Results of PBT and vPvB assessment

PBT: *Not applicable.*

vPvB: *Not applicable.*

Other adverse effects *No further relevant information available.*

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The following advice is related to new material and not to any processed products. In case of a mixture with other products other disposal methods may become necessary. If in doubt seek advice from product supplier or from local authorities.

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

If possible, send to be recycled, otherwise burn or deposit in a certified facility.

Uncleaned packagings: *Disposal must be made according to official regulations.*

Recommendation:

Rented packaging: After optimal emptying, close immediately and return to the supplier without cleaning. Care should be taken that no other materials get into the packaging.

Other containers: After complete emptying and cleaning, send to be reconditioned or recycled.

Safety data sheet according to 1907/2006/EC, Article 31**alwitra Quellschweißmittel (Solvent agent)**

Caution: Leftovers in the containers may cause the risk of explosion.

Uncleaned containers should not be perforated, cut or welded.

Recommended cleaning agent: Water, if necessary with cleaning agent.

14. TRANSPORT INFORMATION**UN-Number**

ADR, IMDG, IATA 2056

UN proper shipping name

ADR 2056 TETRAHYDROFURAN

IMDG, IATA TETRAHYDROFURAN

Transport hazard class(es)**ADR**

Class 3 (F1) Flammable liquids.

Label 3

IMDG, IATA

Class 3 Flammable liquids.

Label 3

Packing group

ADR, IMDG, IATA II

Special precautions for user

Warning: Flammable liquids.

Kemler Number:

33

EMS Number:

F-E,S-D

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

UN2056, TETRAHYDROFURAN, 3, II

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Decree to be applied in case of technical fault:**

Materialgroup 2 (light flammable liquids) mixing-swell to be observed

Technical instructions (air):

Class Share in %

NK 50-100

Water hazard class:

Water hazard class 1 (self assessment according to German VwVwS (Regulations for water-hazardous substances): slightly hazardous for water.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing data specification sheet: see item 1: Informing departement

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organization

Safety data sheet according to 1907/2006/EC, Article 31

alwitra Quellschweißmittel (Solvent agent)



Legend: N.Av.= Not Available; N.Ap.= Not Applicable

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