

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 1 of 10

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

1.1. Product identifier

Rhenofol-Quellschweißmittel

REACH Registration Number: 01-2119444314-46-XXXX
CAS No: 109-99-9
Index No: 603-025-00-0
EC No: 203-726-8

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

Use of the substance/mixture

chemical sealing, Solvent

Uses advised against

Only use for the intended purpose.
The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet

Company name: FDT Flachdach Technologie GmbH & Co. KG
Street: Eisenbahnstraße 6-8
Place: D-68199 Mannheim
Telephone: +49 (621) 8504100 Telefax: +49 (621) 8504200
e-mail: kundenservice@fdt.de
Contact person: Marco Anderer Telephone: +49 (621) 8504563
e-mail: marco.anderer@fdt.de
Internet: <http://www.fdt.de>
Responsible Department: Arbeitssicherheit und Umweltschutz

1.4. Emergency telephone number:

Poison Control Center (Mayence, GER): +49 (0)6131 - 19240 (24h - de, en)
Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Flammable liquid: Flam. Liq. 2
Carcinogenicity: Carc. 2
Acute toxicity: Acute Tox. 4
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Highly flammable liquid and vapour.
Suspected of causing cancer.
Harmful if swallowed.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling
tetrahydrofuran

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 2 of 10

Signal word: Danger

Pictograms:



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

This substance does not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C₄H₈O
Molecular weight: 72,11 g/mol

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 | 100 % |
| | 203-726-8 | 603-025-00-0 |
| | | 01-2119444314-46-XXXX |
| | 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 3 of 10

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.

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. May cause drowsiness or dizziness.
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 (CO₂). 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 4 of 10

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.

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)

chemical sealing, Solvent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 5 of 10

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

Test method

pH-Value: not determined

Changes in the physical state

Melting point: -108,5 °C
Initial boiling point and boiling range: 65,5 °C
Flash point: -20 °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: 212 °C DIN 51794

Auto-ignition temperature

Gas: not determined
Decomposition temperature: not determined

Oxidizing properties

not determined

Vapour pressure: 217 hPa
(at 20 °C)

Density (at 20 °C): 0,8892 g/cm³

Water solubility: completely miscible

Partition coefficient: not determined

Viscosity / dynamic: not determined
(at 20 °C)

Viscosity / kinematic: not determined

Vapour density: not determined

Solvent content: 100,00 %

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 6 of 10

The product is stable under regular conditions.

10.3. Possibility of hazardous reactions

Avoid contact with oxidizing agents.
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.

| CAS No | Chemical name | | | |
|----------|-----------------|-----------------|---------|--------|
| | Exposure route | Dose | Species | Source |
| 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 7 of 10

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

This substance does 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 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
Classified as 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 |
| 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 |
| Transport category: | 2 |

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 8 of 10

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
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
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)

14.1. UN number: UN 2056
14.2. UN proper shipping name: TETRAHYDROFURAN
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
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 9 of 10

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): 100%

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 this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,5,6,7,8,10,11,15,16.

Version 1,00 - Creation - 02.06.2014

Version 1,01 - Classification/Labeling according Regulation No.1272/2008 (GHS/CLP) and general revision - 21.07.2015

Version 1,02 - General update - 25.04.2016

Version 1,03 - General update - 26.08.2016

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)

BImSchV (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 Bulk

ICAO: International Civil Aviation Organization

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Rhenofol-Quellschweißmittel

Print date: 01.09.2016

Product code: RCSO-FDT-020

Page 10 of 10

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

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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