

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

Printing date 15.04.2021

Version number 2

Revision: 15.04.2021

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

- **1.1 Product identifier**
 - **Trade name:**
ELBE Cold welding agent THF
ELBE Cold Welding Agent THF
 - **Product Specification Number + Product Code:** 2932110000 (HS Code)
 - **UFI:** 25J4-QHC3-WX1T-E7UP
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

 - **Application of the substance / the mixture** Welding PVC soft foils
- **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
ELBTAL PLASTICS GmbH & Co. KG
Grenzstraße 9
01640 Coswig
Tel.: +49 (0) 3523 53 30 0
Fax.: +49 (0) 3523 53 30 222
E-Mail: info@elbtal-plastics.de
Internet: www.elbtal-plastics.de
 - **Informing department:** Phone: +49 (0) 3523 53 30-0
- **1.4 Emergency telephone number:** Tel.: +49 (0) 551 - 19240 GIZ Nord

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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Hazard pictograms


GHS02 GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

tetrahydrofuran

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

Precautionary statements

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing mist/vapours/spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

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

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.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Packaging of whatever capacity that is delivered to the general public shall be fitted with a tactile warning of danger according to EN ISO 11683.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: Mixture consisting of the following components.

Dangerous components:

CAS: 109-99-9 EINECS: 203-726-8 Reg.nr.: 01-2119444314-46-X	tetrahydrofuran ⚠ Flam. Liq. 2, H225; ⚠ Carc. 2, H351; ⚠ Eye Irrit. 2, H319; STOT SE 3, H335, EUH019 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 25 % STOT SE 3; C ≥ 25 %	50 - 100%
CAS: 108-94-1 EINECS: 203-631-1 Reg.nr.: 01-2119453616-35-X	cyclohexanone ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	2.5 - 10%

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- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
 - **General information**

Take affected persons into the open air.
Remove contaminated clothing immediately.
If symptoms occur or in case of doubt consult a doctor.
 - **After inhalation** Supply fresh air; consult doctor in case of symptoms.
 - **After skin contact**

Wash with water and soap.
Remove contaminated clothing immediately.
 - **After eye contact**

Remove contact lenses if possible.
Keep eye lids open and rinse them with ample amounts of clean running water for at least 15 minutes.
In case of permanent aches and pains please go and see the doctor.
 - **After swallowing**

Rinse out mouth.
Do NOT induce vomiting in order to prevent an invasion into the lungs.
- **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents**

Extinguishing powder, foam 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.
- **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.
- **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
 - **Requirements to be met by storerooms and containers:**
Store cool and dry in well sealed containers.
 - **Information about storage in one common storage facility:**
Do not store together with oxidising and acidic materials.
Keep away from food, drink and animal feeding stuffs.
 - **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed containers.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
WEL: workplace exposure limit
OEL: Occupational Exposure Limit
IOELV: Indicative Occupational Exposure Limit Values, workplace threshold value of the European Union

109-99-9 tetrahydrofuran

IOELV (European Union)	Short-term value: 300 mg/m ³ , 100 ppm Long-term value: 150 mg/m ³ , 50 ppm Skin
WEL (Great Britain)	Short-term value: 300 mg/m ³ , 100 ppm Long-term value: 150 mg/m ³ , 50 ppm Sk

108-94-1 cyclohexanone

IOELV (European Union)	Short-term value: 81.6 mg/m ³ , 20 ppm Long-term value: 40.8 mg/m ³ , 10 ppm Skin
WEL (Great Britain)	Short-term value: 82 mg/m ³ , 20 ppm Long-term value: 41 mg/m ³ , 10 ppm Sk, BMGV

· DNELs

109-99-9 tetrahydrofuran

Oral	DNEL (consumer, long-term, systemic)	1.5 mg/kg bw/day (human)
Dermal	DNEL (worker, long-term, systemic)	12.6 mg/kg bw/day (human)
	DNEL (consumer, long-term, systemic)	1.5 mg/kg bw/day (human)
Inhalative	DNEL (worker, short-term, systemic)	96 mg/m ³ (human)
	DNEL (worker, long-term, systemic)	72.4 mg/m ³ (human)
	DNEL (consumer, short-term, systemic)	52 mg/m ³ (human)

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DNEL (consumer, long-term, systemic)	13 mg/m ³ (human)
DNEL (worker, short-term, local)	300 mg/m ³ (human)
DNEL (worker, long-term, local)	150 mg/m ³ (human)
DNEL (consumer, short-term, local)	150 mg/m ³ (human)
DNEL (consumer, long-term, local)	75 mg/m ³ (human)

· PNECs

109-99-9 tetrahydrofuran

PNEC aqua (freshwater)	4.32 mg/L (.)
PNEC aqua (marine water)	0.432 mg/L (.)
PNEC STP	4.6 mg/L (.)
PNEC soil	2.13 mg/kg soil dw (.)
PNEC sediment (freshwater)	23.3 mg/kg sedim. dw (.)
PNEC sediment (marine water)	2.33 mg/kg sedim. dw (.)
PNEC aqua (intermittent releases)	21.6 mg/L (.)
PNEC oral	67 mg/kg food (.)

· Ingredients with biological limit values:

108-94-1 cyclohexanone

BMGV (Great Britain)	2 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: cyclohexanol
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· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Individual protection measures, such as personal protective equipment

· General protective and hygienic measures

Keep away from foodstuffs, beverages and food.
Take off all contaminated clothing immediately.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

· 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.

· Hand protection



Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

In case of a layer thickness of 0.57 mm the penetration time is longer than 480 minutes.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye/face protection**



Tightly sealed safety glasses.

SECTION 9: Physical and chemical properties

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

· **General Information**

· Colour:	Various colours
· Odour:	Solvent-like
· Odour threshold:	Not determined.
· Melting point/freezing point:	Not determined
· Boiling point or initial boiling point and boiling range	65 - 70 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	1.3 Vol %
· Upper:	12 Vol %
· Flash point:	-21 °C
· Self-inflammability:	Product is not selfigniting.
· Decomposition temperature:	Not determined.
· SADT	
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· dynamic at 20 °C:	0.5 mPas
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	170 hPa
· Density and/or relative density	
· Density at 20 °C	0.9 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	> 230 °C
· Explosive properties:	May form explosive peroxides.
· Solvent content:	
· Organic solvents:	100.0 %
· VOC EU	
· Solids content:	0.0 %
· Change in condition	
· Evaporation rate	Not determined.

· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void

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• Aerosols	Void
• Oxidising gases	Void
• Gases under pressure	Void
• Flammable liquids Highly flammable liquid and vapour.	
• Flammable solids	Void
• Self-reactive substances and mixtures	Void
• Pyrophoric liquids	Void
• Pyrophoric solids	Void
• Self-heating substances and mixtures	Void
• Substances and mixtures, which emit flammable gases in contact with water	Void
• Oxidising liquids	Void
• Oxidising solids	Void
• Organic peroxides	Void
• Corrosive to metals	Void
• Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** Avoid temperatures above 30°C.
- **10.3 Possibility of hazardous reactions**
Reacts with strong oxidizing agents
Reacts with acids
- **10.4 Conditions to avoid**
All sources of ignition: heat, sparks, open flame, electrostatic discharges.
Temperatures greater than 30 °C.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

• **LD/LC50 values that are relevant for classification:**

109-99-9 tetrahydrofuran

Oral	LD50	2,045 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rat) (OECD 402)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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· Additional toxicological information:
· Repeated dose toxicity
109-99-9 tetrahydrofuran

Oral	NOAEL (28d)	1,000 mg/kg bw/day (rat) (OECD 407)
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· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carc. 2

· 11.2 Information on other hazards
· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity
· Aquatic toxicity:
109-99-9 tetrahydrofuran

EC50 (static)	5,930 mg/l/24h (Daphnia magna) (DIN 38412-11)
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LC50 (dynamic)	2,160 mg/l/96h (Pimephales promelas) (OECD 203)
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· 12.2 Persistence and degradability No further relevant information available.

· Other information: There are no data available about the preparation.

· 12.3 Bioaccumulative potential No further relevant information available.

· 12.4 Mobility in soil No further relevant information available.

· 12.5 Results of PBT and vPvB assessment
· PBT: Not applicable.

· vPvB: Not applicable.

· 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects
· Additional ecological information:
· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods
· Recommendation

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

The waste code numbers mentioned are recommendations based on the probable use of the product.

· European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 03 00	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 04*	other organic solvents, washing liquids and mother liquors

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HP3	Flammable
HP4	Irritant - skin irritation and eye damage
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP7	Carcinogenic

· **Uncleaned packagings:**

· **Recommendation:**

Dispose of packaging according to regulations on the disposal of packagings.

Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

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

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR/ADN, IMDG, IATA** UN2056

· **14.2 UN proper shipping name**

· **ADR/ADN** 2056 TETRAHYDROFURAN solution
 · **IMDG, IATA** TETRAHYDROFURAN solution

· **14.3 Transport hazard class(es)**

· **ADR/ADN**



· **Class** 3 (F1) Flammable liquids.
 · **Label** 3

· **IMDG**



· **Class** 3 Flammable liquids.
 · **Label** 3

· **IATA**



· **Class** 3 Flammable liquids.
 Not Restricted.
 · **Label** 3

· **14.4 Packing group**

· **ADR/ADN, IMDG, IATA** II

· **14.5 Environmental hazards:**

Not applicable.

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Kemler Number:** 33

· **EMS Number:** F-E,S-D

· **Stowage Category** B

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· 14.7 Maritime transport in bulk according to IMO instruments		Not applicable.
· Transport/Additional information:		
· ADR/ADN		
· Limited quantities (LQ)	1L	
· Excepted quantities (EQ)	Code: E2	
	Maximum net quantity per inner packaging: 30 ml	
	Maximum net quantity per outer packaging: 500 ml	
· Transport category	2	
· Tunnel restriction code	D/E	
· IMDG		
· Limited quantities (LQ)	1L	
· Excepted quantities (EQ)	Code: E2	
	Maximum net quantity per inner packaging: 30 ml	
	Maximum net quantity per outer packaging: 500 ml	
· UN "Model Regulation":	UN 2056 TETRAHYDROFURAN SOLUTION, 3, II	

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **National regulations**

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is contained.

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

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SECTION 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.

· **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- EUH019 May form explosive peroxides.

· **Department issuing data specification sheet:**

- **DEKRA** This Safety Data Sheet has been drawn up in cooperation with:
DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,
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· **Date of previous version:** 04.12.2020

· **Version number of previous version:** 1

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· *** Data compared to the previous version altered.**