

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
 Product name : Witec Cold Welding Agent
 Product code : 169000, 169001, 169002

1.2. Other means of identification

Other means of identification : No information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Cold welding agent
 Restrictions on use : Do not use for products which come into contact with food stuffs.

1.4. Details of manufacturer or importer

BMI Flachdach GmbH
 Geisfelder Straße 85-91 96050 Bamberg
 96050
 T +49-6053-708-5141 - F +49-6053-708-5130
 service.wolfin.de@bmigroup.com

1.5. Emergency

Emergency contact details : Australian Supplier: Projex Group Pty Ltd
 Address: Unit 2/1 Military Road, Matraville NSW 2036
 Phone: +61 2 8336 1666 Email: mail@projex.com.au Web: www.projex.com.au

SECTION 2: Hazard(s) identification

2.1. Classification of the hazardous chemical

Classification according to the United Nations GHS

Flammable liquids, Category 2 H225
 Acute toxicity (oral), Category 4 H302
 Skin corrosion/irritation, Category 2 H315
 Serious eye damage/eye irritation, Category 2A H319
 Carcinogenicity, Category 2 H351
 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335
 Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : Highly flammable liquid and vapour. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. May cause respiratory irritation.

2.2. Label elements, including precautionary statements

Labelling according to the WHS Regulations

Hazard pictograms (GHS AU) :



Signal word (GHS AU) :

Danger

Hazard statements (GHS AU) :

H225 - Highly flammable liquid and vapour.
 H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H351 - Suspected of causing cancer.
 H335 - May cause respiratory irritation.

Precautionary statements (GHS AU) :

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 - Keep container tightly closed.
 P240 - Ground and bond container and receiving equipment.
 P241 - Use explosion-proof equipment.
 P242 - Use non-sparking tools.
 P243 - Take action to prevent static discharges.
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
P321 - Specific treatment see this label.
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide, dry powder, water spray to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local/regional/national/international Regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition and information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the WHS Regulations
Tetrahydrofuran	(CAS-No.) 109-99-9	90 - 100	Flam. Liq. 2, H225 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth thoroughly with water. Do not induce vomiting. Call a poison center or a doctor if you feel unwell.

4.2. Symptoms caused by exposure

Symptoms/effects : Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. May cause respiratory irritation.

4.3. Medical attention and special treatment

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Suitable extinguishing equipment

Suitable extinguishing media : Alcohol resistant foam, carbon dioxide, dry powder, water spray.
Unsuitable extinguishing media : High volume water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapour.
Explosion hazard : Vapours may form explosive mixture with air.
Reactivity in case of fire : No information available.
Hazardous decomposition products in case of fire : In the event of fire, may decompose: carbon monoxide, carbon dioxide, nitrogen oxides.

5.3. Special protective equipment and precautions for firefighters

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Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate personnel to a safe area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure adequate ventilation, especially in confined areas.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Do not eat, drink or smoke during use. Wash thoroughly after handling.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses. Notify authorities if product enters sewers or public waters.

6.3. Methods and materials for containment and cleaning up

For containment : No information available.

Methods for cleaning up : Absorb remaining liquid with sand or inert absorbent and remove to safe place.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Evacuate personnel to a safe area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wear personal protective equipment.

Local and general ventilation : Use only outdoors or in a well-ventilated area.

Hygiene measures : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Storage area : Keep only in original container. Containers which are opened should be properly resealed and kept upright to prevent leakage.

Storage temperature : 15 - 30 °C

Incompatible materials : Strong acids, strong bases, strong oxidizing agents.

SECTION 8: Exposure controls and personal protection

8.1. Exposure control measures

Tetrahydrofuran (109-99-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	150 mg/m ³
IOEL TWA [ppm]	50 ppm
IOEL STEL	300 mg/m ³
IOEL STEL [ppm]	100 ppm
Notes	Possibility of significant uptake through the skin
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	50 ppm
ACGIH OEL STEL [ppm]	100 ppm
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans

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USA - ACGIH - Biological Exposure Indices

BEI	2 mg/l Parameter: Tetrahydrofuran - Medium: urine - Sampling time: end of shift
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8.2. Biological monitoring

Biological monitoring : No information available

8.3. Control banding

Control banding : No information available

8.4. Engineering controls

Appropriate engineering controls : Remove all sources of ignition. Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.5. Individual protection measures, for example personal protective equipment (PPE)

Eye protection : Tightly fitting safety goggles.

Skin and body protection : Wear protective gloves (EN ISO 374)
Appropriate Material: Polyethylene
Material thickness: > 0.4 mm
Breakthrough time: > 480 min

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Thermal hazard protection : No information available.

8.6. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid

Colour : Colourless.

Odour : Characteristics.

Odour threshold : Not available

Relative evaporation rate (butylacetate=1) : 2.3 mg/s

Melting point : -108 °C (literature value)

Freezing point : Not available

Boiling point : 66 °C (literature value)

Flammability (solid, gas) : Flammable liquid and vapour.

Explosive limits : Not available

Lower explosive limit (LEL) : 2 vol %

Upper explosive limit (UEL) : 11 vol %

Flash point : -21 °C (literature value)

Auto-ignition temperature : 215 °C (literature value)

Decomposition temperature : Not available

pH : Not available

pH solution : Not available

Viscosity, kinematic (calculated value) (40 °C) : 0.528 mm²/s

Partition coefficient n-octanol/water (Log Kow) : Tetrahydrofuran (109-99-9): 0.45 (at 25 °C)

Vapour pressure : 170 mbar (literature value)

Vapour pressure at 50 °C : Not available

Density : 0.890 g/cm³ (literature value)

Relative density : Not available

Relative vapour density at 20 °C : Not available

Solubility : Partially soluble.

Viscosity, dynamic : 0.47 mPa*s (literature value)

Specific heat value : Not available

Saturated vapour concentration : Not available

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Release of invisible flammable vapours and gases	: Not available
Explosive properties	: Pressurised container: May burst if heated.
Particle size	: Not available
Size distribution	: Not available
Shape and aspect ratio	: Not available
Crystallinity	: Not available
Dustiness	: Not available
Surface area	: Not available
Degree of aggregation or agglomeration, and dispersibility	: Not available
Redox potential	: Not available
Biodurability or biopersistence	: Not available
Surface coating or chemistry	: Not available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Incompatible materials.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents.

10.6. Hazardous decomposition products

Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on possible routes of exposure

Inhalation, skin contact, eye contact, ingestion

11.2. Early onset symptoms related to exposure

No additional information available.

11.3. Delayed health effects from exposure

No additional information available.

11.4. Exposure levels and health effects

No additional information available.

11.5. Interactive effects

No additional information available.

11.6. When specific chemical data is not available

No additional information available.

11.7. Mixtures of chemicals

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Tetrahydrofuran (109-99-9)

LD50 oral rat	1650 mg/kg
LC50 Inhalation - Rat [ppm]	21000 ppm/3 h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified

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STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Viscosity, kinematic	0.528 mm ² /s
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11.8. Other information

No additional information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Tetrahydrofuran (109-99-9)

LC50 - Fish [1]	1970 - 2360 mg/L/96 h (Pimephales promelas)
LC50 - Fish [2]	2700 - 3600 mg/L/96 h (Pimephales promelas)

12.2. Persistence and degradability

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Persistence and degradability	No additional information available
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12.3. Bioaccumulative potential

Tetrahydrofuran (109-99-9)

Partition coefficient n-octanol/water (Log Kow)	0.45 (at 25 °C)
BCF - Fish [1]	(will not bioconcentrate)

12.4. Mobility in soil

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Mobility in soil	No additional information available
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12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with UN RTDG / IMDG / IATA




UN RTDG	IMDG	IATA
14.1. UN number		
2056	2056	2056
14.2. UN Proper Shipping Name		
TETRAHYDROFURAN	TETRAHYDROFURAN	Tetrahydrofuran
14.3. Transport hazard class(es)		

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3	3	3
		
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- UN RTDG

Limited quantities (UN RTDG)	: 1L
Excepted quantities (UN RTDG)	: E2
Packing instruction (UN RTDG)	: P001, IBC02
Portable tank and bulk container special instructions (UN RTDG)	: T4
Portable tank and bulk container special provisions (UN RTDG)	: TP1

- IMDG

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	: S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	: B
Flash point (IMDG)	: below -18°C c.c.
Properties and observations (IMDG)	: Colourless liquid with an ethereal odour. Flashpoint: below -18°C c.c. Explosive limits: 1.5% to 12% Miscible with water.

- IATA

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
ERG code (IATA)	: 3H

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

16.1. Date of preparation or review

Issue date	: 05/07/2021
Revision date	: 05/07/2021

16.2. Key abbreviations or acronyms used

Abbreviations and acronyms	: SDS - Safety Data Sheet
	: WHS - Work Health and Safety Work Regulation
	: LC50 - Median lethal concentration
	: LD50 - Median lethal dose
	: STOT - Specific target organ toxicity
	: EC50 - Median effective concentration
	: RTDG - Recommendations on the Transport of Dangerous Goods
	: ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail

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Full text of H-statements:	
H225	Harmful if swallowed.
H302	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.

Safety Data Sheet (SDS), AU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.