

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

Printing date 13.10.2022

Version number 11 (replaces version 10)

Revision: 24.08.2022

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

1.1 Product identifier

Trade name: **ZCU HERP-HT-MWIR-BK11**

Article number: 473678

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

No further relevant information available.

Sector of Use

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product category PC9a Coatings and paints, thinners, paint removers

Process category

PROC7 Industrial spraying

PROC11 Non industrial spraying

Application of the substance / the mixture Lacquer

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Západočeská univerzita v Plzni

Univerzitní 8

306 14 Plzeň, CZ

Tel: +420 377 634 719

Fax: +420 377 634 702

Identifikační číslo: 497 77 513

e-mail: info@labir.cz

Further information obtainable from: Department Product Safety

1.4 Emergency telephone number:

Tel: +420 377 634 719

(09:00 - 16:00 h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



flame

Aerosol 1

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



environment

Aquatic Chronic 2 H411

Toxic to aquatic life with long lasting effects.



Skin Irrit. 2

H315

Causes skin irritation.

Eye Irrit. 2

H319

Causes serious eye irritation.

STOT SE 3

H336

May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

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· Hazard pictograms

GHS02 GHS07 GHS09

· Signal word Danger**· Hazard-determining components of labelling:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane butan-1-ol

· Hazard statements

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

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

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P260 Do not breathe spray.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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

· Additional information:

Buildup of explosive mixtures possible without sufficient ventilation.

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

· 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 of substances listed below with nonhazardous additions.**· Dangerous components:**

EC number: 921-024-6 Reg.nr.: 01-2119475514-35	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane <div style="border-top: 1px dashed black; border-bottom: 1px dashed black; padding: 2px 0;"> Flam. Liq. 2, H225 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336 </div>	25-<50%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane <div style="border-top: 1px dashed black; border-bottom: 1px dashed black; padding: 2px 0;"> Flam. Gas 1A, H220 Press. Gas (Comp.), H280 </div>	20-<25%

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CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane (containing < 0,1 % butadiene (203-450-8)) Flam. Gas 1A, H220 Press. Gas (Comp.), H280	12.5-<20%
EC number: 905-588-0 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32	xylene Flam. Liq. 3, H226 STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	5-<10%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27	isobutane (containing < 0,1 % butadiene (203-450-8)) Flam. Gas 1A, H220 Press. Gas (Comp.), H280	5-<10%
CAS: 12001-26-2 EC number: 601-648-2	Mica substance with a Community workplace exposure limit	2.5-<5%
CAS: 71-36-3 EINECS: 200-751-6 Index number: 603-004-00-6 Reg.nr.: 01-2119484630-38	butan-1-ol Flam. Liq. 3, H226 Eye Dam. 1, H318 Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335- H336	<2.5%
CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119489379-17	titanium dioxide Carc. 2, H351	<2.5%

Additional information:

The content of Benzene (EINECS-Nr. 200-753-7) in the ingredients is less than 0,1% (Note P Annex 1A 1272/2008 EU), so the classification as carcinogen need not to apply.

xylene: Contains ethylbenzene CAS 100-41-4

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **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:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters -

- **Protective equipment:** Mouth respiratory protective device.

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SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

· 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 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 disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Keep respiratory protective device available.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions: Keep container tightly sealed.

· Storage class: 2 B

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

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

106-97-8 butane (containing < 0,1 % butadiene (203-450-8))WEL Short-term value: 1810 mg/m³, 750 ppmLong-term value: 1450 mg/m³, 600 ppm

Carc (if more than 0.1% of buta-1.3-diene)

xylene

WEL Short-term value: 441 mg/m³, 100 ppmLong-term value: 220 mg/m³, 50 ppm

Sk; BMGV

12001-26-2 Mica

WEL Long-term value: 10* 0.8** mg/m³

*total inhalable **respirable

71-36-3 butan-1-ol

WEL Short-term value: 154 mg/m³, 50 ppm

Sk

13463-67-7 titanium dioxide

WEL Long-term value: 10* 4** mg/m³

*total inhalable **respirable

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· Ingredients with biological limit values:**xylene**

BMGV 650 mmol/mol creatinine
 Medium: urine
 Sampling time: post shift
 Parameter: methyl hippuric acid

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Avoid contact with the eyes.

· **Respiratory protection:**



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A2/P3

· **Hand protection**



Protective 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**

Butyl rubber gloves with a thickness of 0.4 mm are resistant to:

Acetone: 480 min

Butyl acetate: 60 min

Ethyl acetate: 170 min

Xylene: 42 min

Butyl rubber gloves with a thickness of 0.4 mm are solvent resistant for 42- 480 minutes. As protective measure, we recommend that users and responsible persons for work safety assume solvent resistance length of 42 minutes. Considering the data in section 3 of this SDS, one can assume longer resistance length in particular cases.

· **Eye/face protection**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Physical state**

Aerosol

· **Colour:**

According to product specification

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· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	Not applicable, as aerosol.
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	1.5 Vol % (106-97-8 butane (containing < 0,1 % butadiene (203-450-8)))
· Upper:	10.9 Vol % (74-98-6 propane)
· Flash point:	Not applicable, as aerosol.
· Ignition temperature:	201 °C (393.8 °F) (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)
· Decomposition temperature:	Not determined.
· pH	Mixture is non-soluble (in water).
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C (68 °F):	8300 hPa (6225.5 mm Hg) (74-98-6 propane)
· Density and/or relative density	
· Density at 20 °C (68 °F):	0.7 g/cm ³ (5.8 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.

· 9.2 Other information	
· Appearance:	
· Form:	Aerosol
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Not determined.
· Solvent content:	
· Organic solvents:	85.1 %
· VOC (EC)	---
	620.9 g/l
· VOC-EU%	85.06 %
· Solids content:	13.9 %
· Change in condition	
· Evaporation rate	Not applicable.

· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Extremely flammable aerosol. Pressurised container: May burst if heated.
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· 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

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- | | |
|----------------------------------|------|
| · 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:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50 / 4 h	>20 mg/m ³ (rat)

xylene

Oral	LD50	3523 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50 / 4 h	29000 mg/m ³ (rat)

71-36-3 butan-1-ol

Oral	LD50	2292 mg/kg (rat)
Dermal	LD50	3430 mg/kg (rabbit)
Inhalative	LC50 / 4 h	17000 mg/m ³ (rat)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **STOT-single exposure** May cause drowsiness or dizziness.
- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

EC50 / 48 h	3 mg/l (daphnia magna / Wasserfloh)
EC50 / 72 h	30 mg/l (Pseudokirchneriella subcapitata)
LC50 / 96 h	11.4 mg/l (oncorhynchus mykiss / Regenbogenforelle)

xylene

EC50 / 48 h	7.4 mg/l (daphnia magna)
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LC50 / 96 h 13.5 mg/l (fish)

71-36-3 butan-1-ol

LC50 / 96 h 1376 mg/l (fish)

- **12.2 Persistence and degradability** No further relevant information available.
- **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**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms



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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Disposal must be made according to official regulations.

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SECTION 14: Transport information

- **14.1 UN number or ID number**
 - **ADR, IMDG, IATA** UN1950
 - **14.2 UN proper shipping name**
 - **ADR** 1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS
 - **IMDG** AEROSOLS
 - **IATA** AEROSOLS, flammable
 - **14.3 Transport hazard class(es)**
 - **ADR**
- 

- **Class** 2 5F Gases.
 - **Label** 2.1

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· IMDG, IATA

- **Class** 2.1 Gases.
- **Label** 2.1

- **14.4 Packing group**
- **ADR, IMDG, IATA** not regulated

- **14.5 Environmental hazards:**
- **Special marking (ADR):** Symbol (fish and tree)

- **14.6 Special precautions for user** Warning: Gases.
- **Hazard identification number (Kemler code):** -
- **EMS Number:** F-D,S-U
- **Stowage Code** SW1 Protected from sources of heat.
SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
- **Segregation Code** SG69 For AEROSOLS with a maximum capacity of 1 litre:
Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.
For AEROSOLS with a capacity above 1 litre:
Segregation as for the appropriate subdivision of class 2.
For WASTE AEROSOLS:
Segregation as for the appropriate subdivision of class 2.

- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

· Transport/Additional information:

- **ADR**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
- **Transport category** 2
- **Tunnel restriction code** D

- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity

- **UN "Model Regulation":** UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

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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** P3a FLAMMABLE AEROSOLS
E2 Hazardous to the Aquatic Environment

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- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (UK ANNEX XIV)**

· **Regulation (EC) No 273/2004 on drug precursors**

67-64-1	acetone	3
108-88-3	toluene	3

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

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H220 Extremely flammable gas.
- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H280 Contains gas under pressure; may explode if heated.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.

· **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 Organisation
- 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)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Gas 1A: Flammable gases – Category 1A
- Aerosol 1: Aerosols – Category 1
- Press. Gas (Comp.): Gases under pressure – Compressed gas
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- 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
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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

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