

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.07.2017

Version number 2

Revision: 26.07.2017

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:** ZCU002
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 - SU21 Consumer uses: Private households / general public / consumers
 - 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
- **Environmental release category**
 - ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
 - ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- **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: +420 224 919 293
 - (+420 224 915 402)

SECTION 2: Hazards identification

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



GHS02 flame

Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

| | | |
|---------------|------|------------------------------------|
| Skin Irrit. 2 | H315 | Causes skin irritation. |
| Eye Irrit. 2 | H319 | Causes serious eye irritation. |
| STOT SE 3 | H336 | May cause drowsiness or dizziness. |

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· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

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

· Hazard pictograms



GHS02 GHS07 GHS09

· Signal word Danger

· Hazard-determining components of labelling:

Hydrocarbons, C6-C7, Isoalkane, Cyclene, <5% n-Hexane

Hydrocarbons

Kohlenwasserstoffe, C6, Isoalkane, < 5% n-Hexan

Hydrocarbons

· 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.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

| | | |
|---|--|-----------|
| CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21 | propane ⚠ Flam. Gas 1, H220 Press. Gas C, H280 | 20-<25% |
| CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32 | butane ⚠ Flam. Gas 1, H220 Press. Gas C, H280 | 12.5-<20% |

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| | | |
|---|---|--------|
| EC number: 926-605-8 Reg.nr.: 01-2119486291-36 | Hydrocarbons, C6-C7, Isoalkane, Cyclene, <5% n-Hexane Asp. Tox. 1, H304 Aquatic Chronic 2, H411 STOT SE 3, H336 | 5-<10% |
| | xylene, mixture of isomers Flam. Liq. 3, H226 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | 5-<10% |
| CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27 | isobutane Flam. Gas 1, H220 Press. Gas C, H280 | 5-<10% |
| EC number: 927-510-4 Reg.nr.: 01-2119475515-33 | Hydrocarbons Flam. Liq. 2, H225 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336 | 5-<10% |
| EC number: 931-254-9 Reg.nr.: 01-2119484651-34 | Kohlenwasserstoffe, C6, Isoalkane, < 5% n-Hexan Flam. Liq. 2, H225 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336 | 5-<10% |
| EC number: 921-024-6 Reg.nr.: 01-2119475514-35 | Hydrocarbons Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336 | 5-<10% |
| CAS: 12001-26-2 EC number: 601-648-2 | Mica substance with a Community workplace exposure limit | 5-<10% |
| CAS: 100-41-4 EINECS: 202-849-4 Index number: 601-023-00-4 Reg.nr.: 01-2119489370-35 | ethylbenzene Flam. Liq. 2, H225 STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H332 Aquatic Chronic 3, H412 | <2.5% |
| 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: 110-82-7 EINECS: 203-806-2 Index number: 601-017-00-1 | cyclohexane Flam. Liq. 2, H225 Asp. Tox. 1, H304 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Skin Irrit. 2, H315; STOT SE 3, H336 | ≤0.5% |

Additional information:

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

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- **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:** 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.

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.
- **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

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

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

106-97-8 butane

| | |
|-----|---|
| WEL | Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene) |
|-----|---|

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xylene, mixture of isomers

WEL Short-term value: 441 mg/m³, 100 ppm
Long-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

100-41-4 ethylbenzene

WEL Short-term value: 552 mg/m³, 125 ppm
Long-term value: 441 mg/m³, 100 ppm
Sk

71-36-3 butan-1-ol

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

110-82-7 cyclohexane

WEL Short-term value: 1050 mg/m³, 300 ppm
Long-term value: 350 mg/m³, 100 ppm

· Ingredients with biological limit values:**xylene, mixture of isomers**

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**· 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:

Filter AX
Not necessary if room is well-ventilated.
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.

· Protection of hands:

In case of contact with spray dust protective gloves made of butyl should be used (min. 0.4 mm thick), e.g. KCL Camatril, article no. 898 or similar products
Solvent resistant gloves



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

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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**

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

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

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Aerosol

Colour: Black

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Not applicable, as aerosol.

· **Flash point:** Not applicable, as aerosol.

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 365°C (689 °F)

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Not determined.

· **Explosion limits:**

Lower: 1.5 Vol %

Upper: 10.9 Vol %

· **Vapour pressure at 20°C (68 °F):** 8,300 hPa (6,225 mm Hg)

· **Density at 20°C (68 °F):** 0.68 g/cm³ (5.675 lbs/gal)

· **Relative density:** Not determined.

· **Vapour density:** Not determined.

· **Evaporation rate:** Not applicable.

· **Solubility in / Miscibility with**

water: Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

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| | |
|---------------------------------|--|
| · Solvent content: | |
| Organic solvents: | 78.4 % |
| VOC (EC) | --- |
| | 578.9 g/l |
| · VOC-EU% | 85.13 % |
| · Solids content: 26.4 % | |
| · 9.2 Other information | No further relevant information available. |

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 toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** 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 drowsiness or dizziness.
- **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **Ecotoxicological 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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- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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.

- **European waste catalogue**

| | |
|-----------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other hazardous substances |
| 15 01 04 | metallic packaging |
| 15 01 11* | metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers |

- **Uncleaned packaging:**
- **Recommendation:** Non contaminated packagings may be recycled.

SECTION 14: Transport information

- **14.1 UN-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
- **IMDG, IATA**

 - **Class** 2.1
 - **Label** 2.1
- **14.4 Packing group**
· **ADR, IMDG, IATA** not regulated
- **14.5 Environmental hazards:**
· **Marine pollutant:** Yes
· **Special marking (ADR):** Symbol (fish and tree)
- **14.6 Special precautions for user** Warning: Gases.
· **Danger code (Kemler):** -
· **EMS Number:** F-D,S-U
· **Stowage Code** SW1 Protected from sources of heat.
SW22 For AEROSOLS with a maximum capacity of 1 litre:

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· **Segregation Code**

Category A. For AEROSOLS with a capacity above 1 litre:
Category B. For WASTE AEROSOLS: Category C, Clear
of living quarters.
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 Transport in bulk according to Annex II of
Marpol and the IBC Code**

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

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

· **Qualifying quantity (tonnes) for the application of lower-tier requirements 150 t**

· **Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t**

· **REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 57**

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

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.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

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H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful 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 européen sur le transport 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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas 1: Flammable gases – Category 1

Aerosol 1: Aerosols – Category 1

Press. Gas C: 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

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 Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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