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

- · 1.1 Product identifier
- · Trade name: ZCU Chalk spray black 400ml
- · Article number: 460647
- · 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



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



Eye Irrit. 2 H319

Causes serious eye irritation.

Skin Sens. 1 H317 Mc

May cause an allergic skin reaction.

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

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

· Hazard pictograms





GHS02

GHS07

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· Signal word Danger

· Hazard-determining components of labelling:

maleic anhydride

2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with butyl 2-propenoate, comps. with polyethylene glycol hydrogen maleate C9-11-alkyl ethers

· Hazard statements

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

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· 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.

P280 Wear protective gloves.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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.

CAS: 64-17-5	ethanol	25-<50%
EINECS: 200-578-6 Index number: 603-002-00-5	(*) Flam. Liq. 2, H225 (*) Eye Irrit. 2, H319	
	Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %	
CAS: 74-98-6 EINECS: 200-827-9	propane 📀 Flam. Gas 1A, H220	12.5-<20%
Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	Press. Gas (Comp.), H280	
CAS: 106-97-8	butane (containing < 0,1 % butadiene (203-450-8))	10-<12.5%
EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	
CAS: 141-78-6	ethyl acetate	5-<10%
EINECS: 205-500-4	Flam. Liq. 2, H225	
Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46	(i) Eye Irrit. 2, H319; STOT SE 3, H336 EUH066	

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CAS: 75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	2.5-<5
EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27	🍅 Flam. Gas 1A, H220 Press. Gas (Comp.), H280	
CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119489379-17	titanium dioxide ③ Carc. 2, H351	<2.5%
CAS: 1259547-09-5	2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with butyl 2-propenoate, comps. with polyethylene glycol hydrogen maleate C9-11-alkyl ethers Skin Sens. 1, H317	≤ 0.5%
CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3 Reg.nr.: 01-2119457290-43	butanone † Flam. Liq. 2, H225	≤ 0.5%
CAS: 108-31-6 EINECS: 203-571-6 Index number: 607-096-00-9 Reg.nr.: 01-2119472428-31	maleic anhydride Resp. Sens. 1, H334; STOT RE 1, H372 Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Skin Sens. 1A, H317 Specific concentration limit: Skin Sens. 1A; H317: C ≥0.001 %	≤ 0.5%

[·] 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
- · After inhalation:

Supply fresh air and to be sure call for a doctor.

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.

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

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· 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.

No special measures required.

· 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
- \cdot 7.3 *Specific end use(s) No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

	Inquadianto	i+h	limit values	that magnine	monitorina	at the workplace:
•	Ingreatents	wun	umu vatues	i inai reauire	monuoring	at the workblace:

64-17-5 ethanol

WEL Long-term value: 1920 mg/m³, 1000 ppm

106-97-8 butane (containing < 0,1 % butadiene (203-450-8))

WEL Short-term value: 1810 mg/m³, 750 ppm Long-term value: 1450 mg/m³, 600 ppm

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

141-78-6 ethyl acetate

WEL Short-term value: 1468 mg/m³, 400 ppm

Long-term value: 734 mg/m³, 200 ppm

13463-67-7 titanium dioxide

WEL Long-term value: 10* 4** mg/m³

*total inhalable **respirable

78-93-3 butanone

WEL Short-term value: 899 mg/m³, 300 ppm

Long-term value: 600 mg/m³, 200 ppm

Sk, BMGV

108-31-6 maleic anhydride

WEL Short-term value: 3 mg/m³

Long-term value: 1 mg/m³

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· Ingredients with biological limit values:

78-93-3 butanone

BMGV 70 µmol/L Medium: urine

Sampling time: post shift Parameter: butan-2-one

- · 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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(Contd. of page 5) · 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: 15 Vol % (64-17-5 ethanol) · Flash point: Not applicable, as aerosol. 365 °C (689 °F) · Ignition temperature: · Decomposition temperature: Not determined. $\cdot pH$ Not determined. · Viscosity: · Kinematic viscosity Not determined. · Dynamic: Not determined. · Solubility Not miscible or difficult to mix. · water: · 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): 0.9 g/cm3 (7.5 lbs/gal) · Relative density Not determined. Not determined. · Vapour density · 9.2 Other information · Appearance: · Form: Aerosol · Important information on protection of health and environment, and on safety. Not determined. · Explosive properties: · Solvent content: 68.9 % · Organic solvents: · **VOC** (**EC**) 610.0 g/l 70.00 % · VOC-EU% 29.6 % · Solids content: · Change in condition Not applicable. · Evaporation rate · Information with regard to physical hazard classes Void · Explosives · 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 Void gases in contact with water · Oxidising liquids Void · Oxidising solids Void Void · Organic peroxides

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Corrosive to metals
Desensitised explosives

Void
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

110thic tohti	· Actue toxicity			
· LD/LC50 1	· LD/LC50 values relevant for classification:			
64-17-5 eti	64-17-5 ethanol			
Oral	LD50	10470 mg/kg (rat)		
Dermal	LD50	>2000 mg/kg (rat)		
Inhalative	LC50/4h	120 mg/l (rat)		
141-78-6 e	141-78-6 ethyl acetate			
Oral	LD50	>18000 mg/kg (rab)		
Dermal	LD50	5620 mg/kg (rat)		
Inhalative	LC50/4 h	1600 mg/m3 (rat)		
78-93-3 bu	78-93-3 butanone			
Oral	LD50	>2193 mg/kg (rat)		
Dermal	LD50	>5000 mg/kg (rabbit)		
Inhalative	LC50/4 h	34 mg/m3 (rat)		
CI.	Ship compagion/impitation No invitant effect			

- · Skin corrosion/irritation No irritant effect.
- · Serious eye damage/irritation Causes serious eye irritation.
- · Respiratory or skin sensitisation May cause an allergic skin reaction.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties

78-93-3 butanone List II

SECTION 12: Ecological information

· 12.1 Toxicity

	v .		
· Aquatic tox	icity:		
64-17-5 eth	anol		
LC50/96h	13000 mg/l (oncorhynchus mykiss / Regenbogenforelle)		
EC50 / 48 h	50 / 48 h 12900 mg/l (algae)		
LC50 / 48 h	C50 / 48 h 12340 mg/l (daphnia magna)		
78-93-3 but	anone		
LC50 / 48 h	308 mg/l (daphnia magna)		
LC50 / 72 h	1972 mg/l (Pseudokirchneriella Subcapitata)		
	(Contd. on page 8)		

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LC50 / 96 h 2990 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 For information on endocrine disrupting properties see section 11.
- · 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 course or sewage

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

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

- · Uncleaned packaging:
- Recommendation: Dispose of packaging according to regulations on the disposal of packagings.

14.1 UN number or ID number		
ADR, IMDG, IATA	UN1950	
14.2 UN proper shipping name		
ADR	1950 AEROSOLS	
IMDG	AEROSOLS	
IATA	AEROSOLS, flammable	
14.3 Transport hazard class(es)		
ADR		
Class Label	2 5F Gases. 2.1	
IMDG, IATA	2.1	
Class	2.1 Gases.	
Label	2.1	
14.4 Packing group		
ADR, IMDG, IATA	not regulated	
14.5 Environmental hazards:	Not applicable.	

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	(Contd. of page
14.6 Special precautions for user	Warning: Gases.
Hazard identification number (Kemler coa	
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
	except for division 1.4.
	For AEROSOLS with a capacity above 1 litre:
	Segregation as for the appropriate subdivision of class
	For WASTE AEROSOLS:
	Segregation as for the appropriate subdivision of class
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
· ~	Code: E0
Excepted quantities (EQ)	
Excepted quantities (EQ)	Not permitted as Excepted Quantity

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
- · 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

78-93-3 butanone

· National regulations:

· Additional classification according to Decree on Hazardous Materials, Annex II: Carcinogenic hazardous material group III (dangerous).

· 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.

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Trade name: ZCU Chalk spray black 400ml

(Contd. of page 9) · Relevant phrases H220 Extremely flammable gas. H225 Highly flammable liquid and vapour. H280 Contains gas under pressure; may explode if heated. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H372 Causes damage to organs through prolonged or repeated exposure. EUH066 Repeated exposure may cause skin dryness or cracking. · 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) 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 Acute Tox. 4: Acute toxicity - Category 4 Skin Corr. 1B: Skin corrosion/irritation - Category 1B Eye Dam. 1: Serious eye damage/eye irritation - Category 1 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2 Resp. Sens. 1: Respiratory sensitisation - Category 1 Skin Sens. 1: Skin sensitisation - Category 1 Skin Sens. 1A: Skin sensitisation - Category 1A

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

* * Data compared to the previous version altered.

GB