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SECTION 1: Identification of the substance/mixture and of the company/undertaking 1.1 Product identifier Trade name: <u>2 V 47 VERHARDER</u> · Article number: 2V47-C50 · UFI: U59C-G1CT-P009-XGTS · 1.2 Relevant identified uses of the substance or mixture and uses advised against Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites SU19 Building and construction work SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen) · Product category PC9a Coatings and paints, thinners, paint removers Process category PROC7 Industrial spraying PROC10 Roller application or brushing PROC19 Manual activities involving hand contact PROC13 Treatment of articles by dipping and pouring · Application of the substance / the mixture solvent based, two component epoxy coating hardener 1.3 Details of the supplier of the safety data sheet · Manufacturer/Supplier: Zandleven Coatings B.V. Snekertrekweg 57-59, 8912 AA Leeuwarden, Netherlands Tel: +31 58 2129545 Fax: +31 58 2155996 E-mail: info@zandleven.com Internet: www.zandleven.com · Further information obtainable from: R&D department: sds@zandleven.com · 1.4 Emergency telephone number: Nationaal Vergiftigingen Informatie +31 (0)88 755 8000 ORFILA (INRS) : + 33 (0)1 45 42 59 59 Centres Antipoison et de Toxicovigilance ANGERS: 02 41 48 21 21 BORDEAUX: 05 56 96 40 80 LILLE: 0800 59 59 59 LYON: 04 72 11 69 11 MARSEILLE: 04 91 75 25 25 NANCY: 03 83 22 50 50 PARIS: 01 40 05 48 48 STRASBOURG: 03 88 37 37 37 TOULOUSE: 05 61 77 74 47 Giftnotruf der Charité, Berlin: 030/19240 Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord) :0551/19 240 Informationszentrale gegen Vergiftungen Zentrum für Kinderheilkunde Universitätsklinikum Bonn: 0228/19240 Giftnotruf Erfurt Gemeinsames Giftinformationszentrum der Länder Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen: 0361/730 730 Informations- und Beratungszentrum für Vergiftungsfälle Klinik für Kinder- und Jugendmedizin Universitätsklinikum des Saarlandes: 06841/19240 Giftinformationszentrum der Länder Rheinland-Pfalz und Hessen - Klinische Toxikologie - Universitätsmedizin der Johannes Gutenberg-Universität Mainz: 06131/19240 Vergiftungs-Informations-Zentrale Zentrum für Kinder- und Jugendmedizin Universitätsklinikum: 0761/19240 Giftnotruf München Toxikologische Abteilung der II. Med. Klinik und Poliklinik: 089/19240 Supplier +31 (0)58 2677590 (during office hours)

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

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

Flam. Liq. 3 H226 Flammable liquid and vapour.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

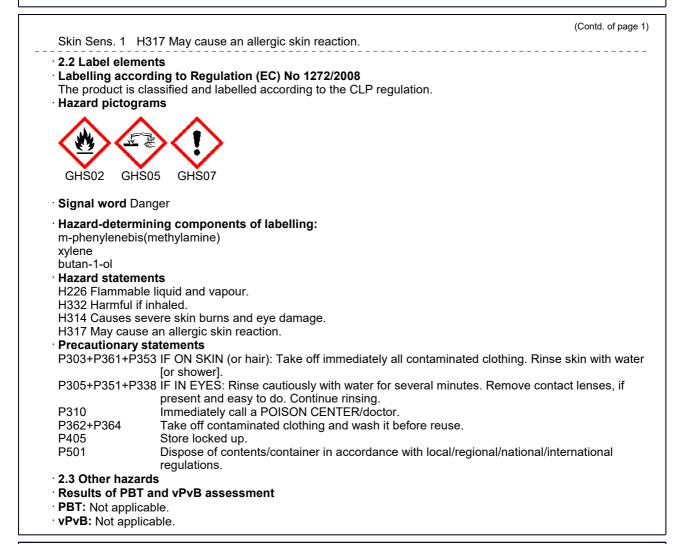
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SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

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

Dangerous components:

Percentages of the components are expressed as a percentage by weight

U 1		
CAS: 1477-55-0 EINECS: 216-032-5 Reg.nr.: 01-2119480150-50	m-phenylenebis(methylamine) ♦ Skin Corr. 1B, H314; Eye Dam. 1, H318; ♦ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1B, H317; Aquatic Chronic 3, H412, EUH071	10-25%
CAS: 71-36-3 EINECS: 200-751-6 Index number: 603-004-00-6 Reg.nr.: 02-2119484630-38	butan-1-ol ♦ Flam. Liq. 3, H226; ♦ Eye Dam. 1, H318; ♦ Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	2.5-10%
CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32	xylene Flam. Liq. 3, H226; S Asp. Tox. 1, H304; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5-10%
· Additional information: For	the wording of the listed hazard phrases refer to section 16.	J

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SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· 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 rinse with water.
- · After eye contact: Rinse opened eye for several minutes under running water. Then 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.
- 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: Dilute with plenty of water. Do not allow to enter sewers/ 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, sawdust). Use neutralising agent. Dispose 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 disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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- $^{\cdot}$ 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:

· Requirements to be met by storerooms and receptacles:

Store material in original, well-closed packages in a cool, well-ventilated area according to local regulations.

• Information about storage in one common storage facility: Not required. • Further information about storage conditions: Keep container tightly sealed.

• Recommended storage temperature: 5 - 30 °C

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

SECTION 8: Exposure controls/personal protection

Ingredients with limit values that require monitoring at the workplace:					
1330-20-7	5				
	ort-term value: 442 mg/m³, 100 ppm				
Long-term value: 221 mg/m³, 50 ppm					
Sk					
•	rived No Effect Level) for workers:				
1477-55-0	m-phenylenebis(methylamine)				
Dermal	Long-term - systemic effects, worker 0		. ,		
Inhalative	Long-term - systemic effects, worker 1	-	. ,		
	Long-term - local effects, worker).2 mg/m³ ((worker)		
71-36-3 bi					
Inhalative	Long-term - local effects, worker 3	810 mg/m ³	(worker)		
1330-20-7	-				
Dermal	Long-term - systemic effects, worker 2				
Inhalative	-	42 mg/m ³			
		42 mg/m ³			
	Long-term - systemic effects, worker 2	•			
	Long-term - local effects, worker 2	21 mg/m ³	(worker)		
· DNEL (De	rived No Effect Level) for the general	polulatio	n:		
71-36-3 bi	utan-1-ol				
Oral	Long-term - systemic effects, general p	opulation	3.125 mg/kg bw/day (general population)		
Inhalative	Long-term - local effects, general popu	lation	55 mg/m³ (general population)		
1330-20-7	xylene				
Oral	Long-term - systemic effects, general p	opulation	12.5 mg/kg bw/day (general population)		
Dermal	Long-term - systemic effects, general p	opulation	125 mg/kg bw/day (general population)		
Inhalative	e Acute - systemic effects, general population 260 mg/m ³ (general population)				
	Acute - local effects, general population	n	260 mg/m³ (general population)		
	Long-term - systemic effects, general p	opulation	65.3 mg/m³ (general population)		
	Long-term - local effects, general popu	lation	65.3 mg/m³ (general population)		
· PNEC (Pr	edicted No Effect Concentration) valu	les:			
	m-phenylenebis(methylamine)				
Aquatic compartment - freshwater 0.094 mg/L (freshwater)					
Aquatic co	mpartment - marine water	0.009 m	ig/L (marine water)		
	mpartment - water, intermittent release	s 0.152 m	g/L (intermittent release water)		
	mpartment - sediment in freshwater		/kg sed dw (sediment fresh water)		
	mpartment - sediment in marine water		/kg sed dw (sediment marine water)		
•	compartment - soil	-	/kg dw (soil)		
Sewage treatment plant 10 mg/L (sewage treatment plant)					

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71-36-3 butan-1-ol	
Aquatic compartment - freshwater	0.082 mg/L (not specified)
Aquatic compartment - marine water	0.0082 mg/L (not specified)
Aquatic compartment - water, intermittent releases	2.25 mg/L (not specified)
Aquatic compartment - sediment in freshwater	0.178 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	0.0178 mg/kg sed dw (not specified)
Terrestrial compartment - soil	0.015 mg/kg dw (not specified)
Sewage treatment plant	2,476 mg/L (not specified)
1330-20-7 xylene	
Aquatic compartment - freshwater	0.327 mg/L (freshwater)
Aquatic compartment - marine water	0.327 mg/L (marine water)
Aquatic compartment - water, intermittent releases	0.327 mg/L (intermittent release water)
Aquatic compartment - sediment in freshwater	12.46 mg/kg sed dw (sediment fresh water)
Aquatic compartment - sediment in marine water	12.46 mg/kg sed dw (sediment marine water)
Terrestrial compartment - soil	2.31 mg/kg dw (soil)
Sewage treatment plant	6.58 mg/L (sewage treatment plant)

· 8.2 Exposure controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne

contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. **Appropriate engineering controls** No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Provide readily accessible eve wash stations and safety showers.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

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.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If

workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed

respirator complying with an approved standard if a risk assessment indicates this is necessary.

For organic vapors and solvents type of filter A1 or A2, for dust type of filter P (according to EN 140) Hand protection



Protective gloves

Chemical resistant gloves (EN 374)

Check protective gloves prior to each use for their proper condition.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

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.

Fluorocarbon rubber (Viton) Nitrile rubber, NBR

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(Contd. of page 5) Penetration time of glove material KCL Vitoject 890 breakthrough time > 480 min. thickness: 0,7 mm at limited contact KCL Camatril 730 breakthrough time 30 min. thickness: 0,4 mm The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed. Not suitable are gloves made of the following materials: All other materials Eye/face protection Tightly sealed goggles Safety glasses according to EN 166 or equivalent **Body protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved before the product is used by a specialist. If there is a risk of ignition by static electricity, anti-static protective clothing should be worn. For the best protection against static discharge, clothing should consist of anti-static overalls, boots and gloves. For further information on materials and design requirements and test methods consult the European standard EN 1149. Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. SECTION 9: Physical and chemical properties · 9.1 Information on basic physical and chemical properties General Information · Physical state Liquid · Colour: According to product specification · Odour: Characteristic · Odour threshold: Not determined. · Melting point/freezing point: Undetermined. Boiling point or initial boiling point and boiling range 116-118 °C (71-36-3 butan-1-ol) · Flammability Flammable. · Lower and upper explosion limit · Lower: Not determined. · Upper: Not determined. · Flash point: 30 °C 340 °C (71-36-3 butan-1-ol)

Not determined.

2,000 mPas

0.99 g/cm³

Fully miscible.

Not determined.

Not determined.

at 40 °C: > 20,5 mm²/s

~0 hPa (1477-55-0 m-phenylenebis(methylamine))

>7

- · Auto-ignition temperature:
- Decomposition temperature:
- · pH at 20 °C
- · Viscosity:
- · Kinematic viscosity
- · Dynamic at 20 °C:
- Solubility
- · water:
- · Partition coefficient n-octanol/water (log value)
- · Vapour pressure at 25 °C:
- · Density and/or relative density
- Density at 20 °C:
- Relative density

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· Vapour density	Not determined.
9.2 Other information	
Appearance:	
Form:	Fluid
Important information on protection of health ar	nd
environment, and on safety.	
Ignition temperature:	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of
	explosive air/vapour mixtures are possible.
Change in condition	
Evaporation rate	Not determined.
Information with regard to physical hazard class	Ses
Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	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	e
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: 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.
- \cdot 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 Harmful if inhaled.
- · LD/LC50 values relevant for classification:

Oral		lenebis(methylamine) 930 mg/kg (rat)
Dermal		3,100 mg/kg (rabbit)
Inhalative	LC50/4 h	1.34 mg/l (rat)
71-36-3 butan-1-ol		
Oral	LD50	790 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)
		(Contd. on page

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			(Contd. of page
1330-20-7	xylene		
Oral	LD50	3,523 mg/kg (rat)	
Dermal	LD50	2,000 mg/kg (rabbit)	
Primary ir	ritant effe	ect:	
· Skin corro	osion/irrit	ation Causes severe skin burns and eye damage.	
		e/irritation Causes serious eye damage.	
		sensitisation May cause an allergic skin reaction.	
· Germ cell	mutagen	icity 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 Based on available data, the classification criteria are not met.		
-	-	bosure Based on available data, the classification criteria are not met.	
	• Aspiration hazard Based on available data, the classification criteria are not met.		
· 11.2 Inform	mation or	n other hazards	
·Endocrine	e disrupti	ng properties	
None of the	e ingredie	nts is listed.	
SECTIO	N 12: E	cological information	

· 12.1 Toxicity

· Aquatic toxicit	· 12.1 LOXICITY			
1477-55-0 m-phenylenebis(methylamine)				
EC50/72 h	20.3-33.3 mg/l (aquatic algae and cyanobacteria)			
EC50/48 h	32.1 mg/l (aquatic algae and cyanobacteria)			
LC30/40 II	15.2 mg/l (aquatic algae and cyanobacteria)			
EC50/24 h				
LC50/24 h	35.1 mg/l (aquatic invertebrates)			
	87.6 mg/l (fish)			
	4.7 mg/l (aquatic invertebrates)			
71-36-3 butan-				
EC50/48 h	1,328 mg/l (Daphnia magna)			
LC50/96 h	1,376 mg/l (pimephales promelas)			
1330-20-7 xyle				
EC50/72 h	2.2 mg/l (algae)			
EC50/48 h	>3.4 mg/l (Ceriodaphnia dubia)			
LC50/96 h	2.6 mg/l (Oncorhynchus mykiss)			
LC50/24 h	1 mg/l (Daphnia magna)			
 12.3 Bioaccum 12.4 Mobility in 12.5 Results of 	ce and degradability No further relevant information available. In a context of the second state of the second state of the second state of the second state of the second state In soil No further relevant information available. If PBT and vPvB assessment			
• PBT: Not applic				
• vPvB: Not appl	e disrupting properties			
	es not contain substances with endocrine disrupting properties.			
· 12.7 Other adverse effects				
• Additional eco	logical information:			
· General notes:				
	lass 2 (German Regulation) (Self-assessment): hazardous for water			
Do not allow product to reach ground water, water course or sewage system.				
Must not reach sewage water or drainage ditch undiluted or unneutralised. Danger to drinking water if even small quantities leak into the ground.				
Bangor to anni				

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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.

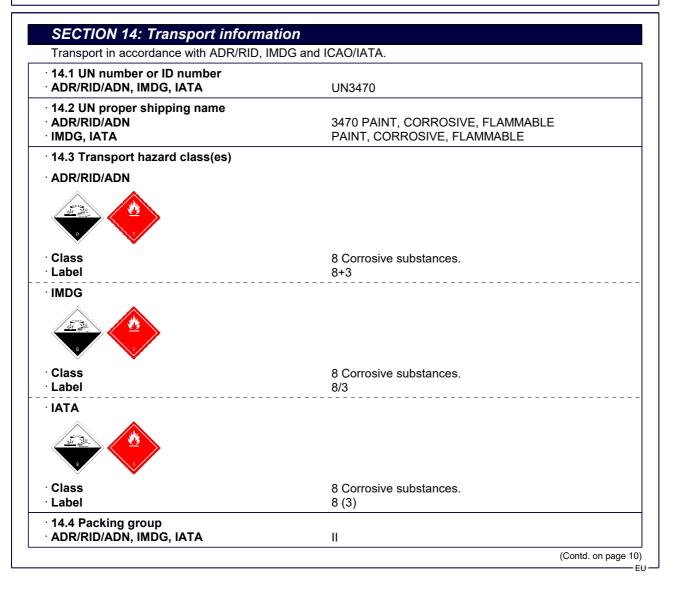
· European waste catalogue

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 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
HP3	Flammable
HP8	Corrosive
HP13	Sensitising

· Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

• Recommended cleansing agents: Water, if necessary together with cleansing agents.



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· 14.5 Environmental hazards:	Not applicable.
 14.6 Special precautions for user Hazard identification number (Kemler code): EMS Number: Stowage Category 	Warning: Corrosive substances. 83 F-E,S-C B
Stowage Code	SW2 Clear of living quarters.
 14.7 Maritime transport in bulk according to IM instruments 	O Not applicable.
· Transport/Additional information:	
 ADR/RID/ADN Limited quantities (LQ) Excepted quantities (EQ) Transport category 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2
· Tunnel restriction code	D/E
 IMDG Limited quantities (LQ) Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3470 PAINT, CORROSIVE, FLAMMABLE, 8 (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.

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

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

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

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(Contd. of page 10) **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. Classification according to Regulation (EC) No 1272/2008 The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008. · Contact: J. Dijkstra Date of previous version: 20.04.2023 · Version number of previous version: 10 · 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 vPvB: very Persistent and very Bioaccumulative Flam. Liq. 3: Flammable liquids - Category 3 Acute Tox. 4: Acute toxicity – Category 4 Skin Corr. 1B: Skin corrosion/irritation – Category 1B 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 Skin Sens. 1: Skin sensitisation - Category 1 Skin Sens. 1B: Skin sensitisation – Category 1B STOT SE 3: Specific target organ toxicity (single exposure) – Category 3 Asp. Tox. 1: Aspiration hazard – Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3 Sources - ECHA European Chemical Agency - http://echa.europa.eu/information-on-chemicals - SDS of raw materials supplied by producer/supplier. * Data compared to the previous version altered.