



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

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

· 1.1 Product identifier

· Trade name: 2 V 38 VERHARDER

· Article number: 2V38

· UFI: MWNR-709J-600Q-32JY

· 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

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

SU19 Building and construction work

· 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 waterborne, 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

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Supplier

Skin Sens. 1

+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

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

H317 May cause an allergic skin reaction.

(Contd. on page 2)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

(Contd. of page 1)

- · 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





GHS05 GHS07

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

m-phenylenebis(methylamine)

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P362+P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

- · 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:

Percentages of the components are expressed as a percentage by weight

	Aliphatic polyamine	10-25%
	Aquatic Chronic 2, H411	
	m-phenylenebis(methylamine)	1-2.5%
	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	
EINECS: 220-666-8 Index number: 612-067-00-9	3-aminomethyl-3,5,5-trimethylcyclohexylamine 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 %	1-2.5%

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
- · General information: Immediately remove any clothing soiled by the product.
- · After inhalation:

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

(Contd. on page 3)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

(Contd. of page 2)

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: If symptoms persist consult doctor.
- 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 No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

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

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: No special measures required.
- \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

- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 4)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

		(Contd. of pag
DNEL (De	rived No Effect Level) for workers:	
1477-55-0	m-phenylenebis(methylamine)	
Dermal	Long-term - systemic effects, worker (0.33 mg/kg bw/day (worker)
Inhalative	Long-term - systemic effects, worker 1	1.2 mg/m³ (human)
	Long-term - local effects, worker	0.2 mg/m³ (worker)
2855-13-2	3-aminomethyl-3,5,5-trimethylcycloh	hexylamine
Inhalative		0.073 mg/m³ (worker)
	Long-term - local effects, worker	0.073 mg/m³ (worker)
DNEL (De	rived No Effect Level) for the general	al polulation:
2855-13-2	3-aminomethyl-3,5,5-trimethylcycloh	hexylamine
Oral Acute	e - systemic effects, general population	n 0.3 mg/kg bw/day (general population)
Long	-term - systemic effects, general popula	ulation 0.3 mg/kg bw/day (general population)
PNEC (Pre	edicted No Effect Concentration) valu	lues:
1477-55-0	m-phenylenebis(methylamine)	
Aquatic co	mpartment - freshwater	0.094 mg/L (freshwater)
Aquatic co	mpartment - marine water	0.009 mg/L (marine water)
Aquatic compartment - water, intermittent releases		ses 0.152 mg/L (intermittent release water)
Aquatic compartment - sediment in freshwater		12.4 mg/kg sed dw (sediment fresh water)
Aquatic co	mpartment - sediment in marine water	r 1.24 mg/kg sed dw (sediment marine water)
Terrestrial	compartment - soil	2.44 mg/kg dw (soil)
Sewage tre	eatment plant	10 mg/L (sewage treatment plant)
2855-13-2	3-aminomethyl-3,5,5-trimethylcycloh	hexylamine
Aquatic co	mpartment - freshwater	0.06 mg/L (freshwater)
Aquatic compartment - marine water		0.006 mg/L (marine water)
Aquatic compartment - water, intermittent releases		ses 0.23 mg/L (intermittent release water)
Aquatic compartment - sediment in freshwater		5.784 mg/kg sed dw (sediment fresh water)
Aquatic co	mpartment - sediment in marine water	r 0.578 mg/kg sed dw (sediment marine water)
Terrestrial	compartment - soil	1.121 mg/kg dw (soil)
Sewage tre	eatment plant	3.18 mg/L (sewage treatment plant)

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

· 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 eye 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 skin.

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)

(Contd. on page 5)

(Contd. of page 4)



Safety data sheet according to Regulation (EC) No 1907/2006, Article 31

Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

· 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

· Penetration time of glove material

KCL Camatril 730 / KCL Dermatril 740

breakthrough time > 480 min. thickness: 0,4 / 0,11 mm

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

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

· Colour: According to product specification

· Odour: Characteristic · Odour threshold: Not determined.

· Melting point/freezing point: Boiling point or initial boiling point and boiling

100 °C (7732-18-5 water, distilled, conductivity or of range

Undetermined.

similar purity) · Flammability Not applicable.

Lower and upper explosion limit · Lower: Not determined. · Upper: Not determined.

· Flash point: Not applicable.

(Contd. on page 6)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

(Contd. of page 5) Decomposition temperature: Not determined. · pH at 20 °C · Viscosity: at 40 °C: > 20,5 mm²/s · Kinematic viscosity · Dynamic at 20 °C: 450 mPas Solubility · water: Fully miscible. · Partition coefficient n-octanol/water (log value) Not determined. · Vapour pressure at 20 °C: 23 hPa (7732-18-5 water, distilled, conductivity or of similar purity) Density and/or relative density Density at 20 °C: 1.02 g/cm³ · Relative density Not determined. · Vapour density Not determined. · 9.2 Other information · Appearance: · Form: Fluid · Important information on protection of health and environment, and on safety. · Ignition temperature: Product is not selfigniting. Explosive properties: Product does not present an explosion hazard. · Solvent content: · Water: 80.0 % · Change in condition Not determined. Evaporation rate · Information with regard to physical hazard classes · Explosives Void · Flammable gases Void · Aerosols Void · 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 Void Oxidising solids · Organic peroxides Void · Corrosive to metals Void

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability

Desensitised explosives

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Void

- 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.

EU -



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

(Contd. of page 6)

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Based on available data, the classification criteria are not met.

· LD	/LC50 \	/alues rele	evant for classification:
147	7-55-0	m-phenyl	lenebis(methylamine)
Ora	al	LD50	930 mg/kg (rat)
Dei	mal	LD50	3,100 mg/kg (rabbit)
Inh	alative	LC50/4 h	1.34 mg/l (rat)
285	55-13-2	3-aminon	nethyl-3,5,5-trimethylcyclohexylamine
Ora	al	LD50	1,030 mg/kg (rat)
Dei	mal	LD50	>2,000 mg/kg (rat)

- · Primary irritant effect:
- Skin corrosion/irritation Causes skin irritation.
- · Serious eve damage/irritation Causes serious eve damage.
- · Respiratory or skin sensitisation May cause an allergic skin reaction.
- 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 Based on available data, the classification criteria are not met.
- 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.
- 11.2 Information on other hazards
- **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:	
nenylenebis(methylamine)	
20.3-33.3 mg/l (aquatic algae and cyanobacteria)	
32.1 mg/l (aquatic algae and cyanobacteria)	
15.2 mg/l (aquatic invertebrates)	
35.1 mg/l (aquatic invertebrates)	
87.6 mg/l (fish)	
4.7 mg/l (aquatic invertebrates)	
inomethyl-3,5,5-trimethylcyclohexylamine	
110 mg/l (Leuciscus idus)	

- · 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: Harmful to 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. Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

(Contd. on page 8)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

Harmful to aquatic organisms

(Contd. of page 7)

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	· 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		
HP14	Ecotoxic		

- · Uncleaned packaging:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information	on	
14.1 UN number or ID number ADR/RID/ADN, IMDG, IATA	Void	
14.2 UN proper shipping name ADR/RID/ADN, IMDG, IATA	Void	
14.3 Transport hazard class(es)		
ADR/RID/ADN, ADN, IMDG, IATA Class	Void	
14.4 Packing group ADR/RID/ADN, IMDG, IATA	Void	
14.5 Environmental hazards:	Not applicable.	
14.6 Special precautions for user	Not applicable.	
14.7 Maritime transport in bulk according instruments	y to IMO Not applicable.	
UN "Model Regulation":	Void	

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.
- · 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.

(Contd. on page 9)



Printing date 06.02.2025 Version: 6 (replaces version 5) Revision: 03.02.2025

Trade name: 2 V 38 VERHARDER

(Contd. of page 8)

· 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.

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: 12.04.2022 · Version number of previous version: 5

· 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

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 Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1A: Skin sensitisation - Category 1A

Skin Sens. 1B: Skin sensitisation - Category 1B

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

· 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.