

SAFETY DATA SHEET

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

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

1.1 Product identifier

Product name: RW531 AlphaGuard PUMA WP

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

Identified uses: Sealant
Uses advised against: Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Importer/Supplier/Distributor Information

Alteco Technik GmbH
Raiffeisenstrasse 16
D-27239 Twistringen
Germany
Telephone: +49 424392950
Fax: +49 4243929589

Contact person: MSDS_Alteco@tremcocpg.com

National Supplier

Tremco CPG UK Limited
Coupland Road
WN2 4HT Hindley Green, WIGAN
UK
Telephone: +44 1942251400
Fax: +44 1942251410

Contact person: www.tremcocpg.eu, uk.info@tremcocpg.com

1.4 Emergency telephone number: 111 / 0300 020 0155

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Physical Hazards

Flammable liquids Category 2 H225: Highly flammable liquid and vapour.

Health Hazards

Skin irritation Category 2 H315: Causes skin irritation.

RW531 AlphaGuard PUMA WP

Skin sensitiser	Category 1	H317: May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure	Category 3	H335: May cause respiratory irritation.

Environmental hazards

Chronic hazards to the aquatic environment	Category 2	H411: Toxic to aquatic life with long lasting effects.
--	------------	--

2.2 Label elements



Signal Words:

Danger

Hazard Statement(s):

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243: Take action to prevent static discharges.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P403+P235: Store in a well-ventilated place. Keep cool.

Hazardous components which must be listed on the label: :

Contains
methyl methacrylate
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
dodecane-1-thiol
2,2'-ethylenedioxydiethyl dimethacrylate
Diethanol-p-toluidin
2-hydroxyethyl methacrylate

RW531 AlphaGuard PUMA WP

2.3 Other hazards

PBT/vPvB data

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties-Toxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties-Ecotoxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
methyl methacrylate	20 - <50%	80-62-6	201-297-1	01-2119452498-28-XXXX;	No data available.	#
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1 - <2,5%	1065336-91-5		01-2119491304-40-XXXX;	No data available.	
2,2'-ethylenedioxy diethyl dimethacrylate	0,1 - <1%	109-16-0	203-652-6	01-2119969287-21-XXXX;	No data available.	
dodecane-1-thiol	0,25 - <1%	112-55-0	203-984-1	01-2119491318-31-XXXX;	Aquatic Toxicity (Acute): 10; Aquatic Toxicity (Chronic): 10	
Diethanol-p-	0,1 - <1%		911-490-9	01-	No data	

RW531 AlphaGuard PUMA WP

toluidin				2119979579-10-XXXX;	available.	
2-hydroxyethyl methacrylate	0,1 - <1%	868-77-9	212-782-2	01-2119490169-29-XXXX;	No data available.	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

This substance is listed as SVHC.

Classification

Chemical name	Classification	Notes
methyl methacrylate	Classification: Flam. Liq.: 2: H225; Skin Irrit.: 2: H315; STOT SE: 3: H335; Skin Sens.: 1: H317 Acute toxicity, oral: LD 50: 7.900 mg/kg Acute toxicity, inhalation: LC 50: 29,8 mg/l Acute toxicity, dermal: LD 50: > 5.000 mg/kg	Note D
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Classification: Skin Sens.: 1A: H317; Repr.: 2: H361; Aquatic Acute: 1: H400; Aquatic Chronic: 1: H410 Acute toxicity, oral: LD 50: 3.230 mg/kg	None.
2,2'-ethylenedioxydiethyl dimethacrylate	Classification: Skin Sens.: 1B: H317 Acute toxicity, dermal: LD 50: > 2.000 mg/kg	None.
dodecane-1-thiol	Classification: Eye Dam.: 1: H318; Skin Corr.: 1C: H314; Skin Sens.: 1A: H317; Aquatic Acute: 1: H400; Aquatic Chronic: 1: H410 Acute toxicity, oral: LD 50: 5.000 mg/kg Acute toxicity, inhalation: LC 50: 7,04 mg/l Acute toxicity, dermal: LD 50: >= 2.000 mg/kg	None.
Diethanol-p-toluidin	Classification: Acute Tox.: 4: H302; Skin Irrit.: 2: H315; Skin Sens.: 1: H317; Eye Dam.: 1: H318; Aquatic Chronic: 3: H412 Acute toxicity, oral: LD 50: 619 mg/kg Acute toxicity, dermal: LD 50: > 2.000 mg/kg	None.
2-hydroxyethyl methacrylate	Classification: Skin Irrit.: 2: H315; Skin Sens.: 1: H317; Eye Irrit.: 2: H319 Acute toxicity, oral: LD 50: >= 2.000 mg/kg Acute toxicity, dermal: LD 50: > 5.000 mg/kg	Note D

RW531 AlphaGuard PUMA WP

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	Move out of dangerous area. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Get medical attention if symptoms persist. Remove contaminated clothing and shoes.
Inhalation:	Move to fresh air.
Skin Contact:	Take off immediately all contaminated clothing. Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Ingestion:	Call a POISON CENTRE/doctor if you feel unwell. Rinse mouth.
Personal Protection for First-aid Responders:	No data available.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.
Hazards:	No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
-------------------	--------------------------

SECTION 5: Firefighting measures

General Fire Hazards:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
------------------------------	--

5.1 Extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
--------------------------------------	---

RW531 AlphaGuard PUMA WP

Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
5.2 Special hazards arising from the substance or mixture:	Vapours may travel considerable distance to a source of ignition and flash back. Vapours may cause a flash fire or ignite explosively. Prevent buildup of vapours or gases to explosive concentrations.
5.3 Advice for firefighters	
Special fire-fighting procedures:	Water spray should be used to cool containers. Evacuate area. Dyke and collect extinguishing water. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorised personnel away.
6.1.1 For non-emergency personnel:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
6.1.2 For emergency responders:	No data available.
6.2 Environmental precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.
6.3 Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
6.4 Reference to other sections:	For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical Measures: No data available.

RW531 AlphaGuard PUMA WP

Local/Total ventilation:

No data available.

Safe handling advice:

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Avoid contact with skin. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Contact avoidance measures:

No data available.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage conditions:

Store locked up. Store in a well-ventilated place. Store in a cool place.

Safe packaging materials:

No data available.

7.3 Specific end use(s):

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Chemical name	Type	Form of exposure	Exposure Limit Values		Source
methyl methacrylate	TWA		50 ppm	208 mg/m ³	EH40 WEL (2007)
	STEL 15 minutes		100 ppm	416 mg/m ³	EH40 WEL (01 2020)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

DNEL-Values

Remarks: DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
methyl methacrylate	Workers	Inhalation	Local, long-term; 208 mg/m ³	Repeated dose toxicity

RW531 AlphaGuard PUMA WP

	General population	Inhalation	Local, long-term; 104 mg/m3	Repeated dose toxicity
	Workers	Dermal	Local, long-term; 1,5 mg/cm2	Skin Sensitisation
	General population	Dermal	Local, long-term; 1,5 mg/cm2	Skin Sensitisation
	General population	Inhalation	Local, short-term; 208 mg/m3	Repeated dose toxicity
	Workers	Eyes	Local effect;	No hazard identified
	General population	Eyes	Local effect;	No hazard identified
	General population	Oral	Systemic, long-term; 8,2 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Local, short-term; 416 mg/m3	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 13,67 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 8,2 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 348,4 mg/m3	Repeated dose toxicity
	General population	Dermal	Local, short-term; 1,5 mg/cm2	Skin Sensitisation
	General population	Inhalation	Systemic, long-term; 74,3 mg/m3	Repeated dose toxicity
	Workers	Dermal	Local, short-term; 1,5 mg/cm2	Skin Sensitisation
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Workers	Eyes	Local effect;	No hazard identified
	General population	Eyes	Local effect;	No hazard identified
	General population	Oral	Systemic, long-term; 0,05 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0,5 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 0,17 mg/m3	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0,25 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 0,68 mg/m3	Repeated dose toxicity
2,2'-ethylenedioxydiethyl dimethacrylate	General population	Inhalation	Systemic, long-term; 14,5 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 48,5 mg/m3	Repeated dose toxicity
	General population	Eyes	Local effect;	No hazard identified
	Workers	Eyes	Local effect;	No hazard identified
	Workers	Dermal	Systemic, long-term; 13,9 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 8,33 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 8,33 mg/kg	Repeated dose toxicity
Diethanol-p-toluidin	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
	Workers	Eyes	Local effect;	Medium hazard (no threshold derived)
	Workers	Inhalation	Systemic, long-term; 9,8 mg/m3	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 2,9 mg/m3	Repeated dose toxicity

RW531 AlphaGuard PUMA WP

	Workers	Dermal	Systemic, long-term; 1,4 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0,83 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0,83 mg/kg	Repeated dose toxicity
2-hydroxyethyl methacrylate	General population	Inhalation	Systemic, long-term; 1,45 mg/m3	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 1,39 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 4,9 mg/m3	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0,83 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0,83 mg/kg	Repeated dose toxicity
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population	Eyes	Local effect;	Low hazard (no threshold derived)

PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
methyl methacrylate	Aquatic (marine water)	0,094 mg/l	
	Sediment (marine water)	1,02 mg/kg	
	Sediment (freshwater)	10,2 mg/kg	
	Sewage treatment plant	10 mg/l	
	Soil	1,48 mg/kg	Soil
	Aquatic (freshwater)	0,94 mg/l	
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Aquatic (freshwater)	0,002 mg/l	
	Aquatic (marine water)	0 mg/l	
	Soil	0,21 mg/kg	
	Sewage treatment plant	1 mg/l	
	Sediment (marine water)	0,11 mg/kg	
	Sediment (freshwater)	1,05 mg/kg	
2,2'-ethylenedioxydiethyl dimethacrylate	Sewage treatment plant	1,7 mg/l	
	Aquatic (freshwater)	0,016 mg/l	
	Aquatic (marine water)	0,002 mg/l	
	Sediment (freshwater)	0,185 mg/kg	
	Sediment (marine water)	0,018 mg/kg	
	Soil	0,027 mg/kg	
Diethanol-p-toluidin	Soil	0,21 mg/kg	
	Sediment (freshwater)	1,2 mg/kg	
	Sediment (marine water)	0,12 mg/kg	
	Sewage treatment plant	10 mg/l	
	Aquatic (marine water)	0,005 mg/l	
	Aquatic (freshwater)	0,048 mg/l	
2-hydroxyethyl methacrylate	Sewage treatment plant	10 mg/l	
	Aquatic (marine water)	0,048 mg/l	
	Sediment (marine water)	3,79 mg/kg	
	Soil	0,476 mg/kg	Soil
	Aquatic (freshwater)	0,482 mg/l	
	Sediment (freshwater)	3,79 mg/kg	

8.2 Exposure controls

RW531 AlphaGuard PUMA WP

Appropriate Engineering Controls:

Observe good industrial hygiene practices. Observe occupational exposure limits and minimise the risk of inhalation of vapours and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Hand Protection:

Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Wash contaminated clothing before re-use. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

Environmental Controls:

Do not release into the environment. Do not discharge into drains, water courses or onto the ground.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: liquid

Form: liquid

Colour: Grey

Odour: acrylic-like Strong pungent

Odour Threshold: 0,05 ppm

Freezing point: -48 °C
Methyl methacrylate

Boiling Point: 101 °C
Methyl methacrylate

Flammability: No data available.

Upper/lower limit on flammability or explosive limits

Explosive limit - upper: 12,5 %(V)
Methyl methacrylate

RW531 AlphaGuard PUMA WP

Explosive limit - lower:	2,1 %(V) Methyl methacrylate
Flash Point:	10 °C
Auto-ignition temperature:	No data available.
Decomposition Temperature:	No data available.
pH:	Not applicable.
Viscosity	
Dynamic viscosity:	No data available.
Kinematic viscosity:	No data available.
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	Insoluble in water
Solubility (other):	No data available.
Dissolution Rate:	No data available.
Partition coefficient (n-octanol/water):	1,38 Methyl methacrylate
Dispersion Stability:	No data available.
Vapour pressure:	37 hPa(20 °C) Methyl methacrylate
Relative density:	No data available.
Density:	1,2 - 1,4 g/cm ³
Bulk density:	No data available.
Relative vapour density:	No data available.

9.2 Other information

VOC content:	< 500 g/l 2004/42/CE & UK SI 2012/1715/IIA(j)(500)
---------------------	---

SECTION 10: Stability and reactivity

10.1	Reactivity:	No data available.
10.2	Chemical stability:	Material is stable under normal conditions.
10.3	Possibility of hazardous reactions:	No data available.

RW531 AlphaGuard PUMA WP

- | | | |
|-------------|--|---|
| 10.4 | Conditions to avoid: | Heat, sparks, flames. |
| 10.5 | Incompatible Materials: | Avoid radical-forming starting agents, peroxides and reactive metals. Amines. Heavy metals Oxidising agents. Reducing Agents. Acids. Bases. |
| 10.6 | Hazardous decomposition products: | Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. |

SECTION 11: Toxicological information

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

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix, 9.523,81 mg/kg

Components:

methyl methacrylate LD 50, Rat, 7.900 mg/kg, 2 = reliable with restrictions, non-guideline study, Weight of evidence.

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate LD 50, Rat, 3.230 mg/kg, 2 = reliable with restrictions, Key study

dodecane-1-thiol LD 50, Rat, 5.000 mg/kg, 2 = reliable with restrictions

Diethanol-p-toluidin LD 50, Rat, 619 mg/kg, 1 = reliable without restrictions, Key study

2-hydroxyethyl LD 50, Rat, >= 2.000 mg/kg, 1 = reliable without restrictions, according to specific guideline, Key study

RW531 AlphaGuard PUMA WP

methacrylate

Dermal

Product: Based on available data, the classification criteria are not met.

Components:

methyl methacrylate	LD 50, Rabbit, > 5.000 mg/kg, 2 = reliable with restrictions, according to specific guideline, Experimental result, Key study
2,2'-ethylenedioxydiethyl dimethacrylate	LD 50, Mouse, > 2.000 mg/kg, 2 = reliable with restrictions, Experimental result, Key study
dodecane-1-thiol	LD 50, Rat, >= 2.000 mg/kg, 2 = reliable with restrictions, Experimental result, Key study
Diethanol-p-toluidin	LD 50, Rat, > 2.000 mg/kg, 1 = reliable without restrictions, Experimental result, Key study
2-hydroxyethyl methacrylate	LD 50, Rabbit, > 5.000 mg/kg, 2 = reliable with restrictions, non-guideline study, Experimental result, Key study

Inhalation

Product: ATEmix, 1.328,3 mg/l, Vapour
ATEmix, 9,91 mg/l, Dust and mist

Components:

methyl methacrylate	LC 50, Rat, 4 h, 29,8 mg/l, Vapour, 2 = reliable with restrictions, Vapour, Key study
---------------------	---

RW531 AlphaGuard PUMA WP

dodecane-1-thiol LC 50, Rat, 4 h, 7,04 mg/l, Vapour, 1 = reliable without restrictions, Vapour

Repeated dose toxicity

Product: Based on available data, the classification criteria are not met.

Components:

methyl methacrylate NOAEL Rat, Male, Oral, 14 d, > 200 mg/kg, Oral Experimental result, Other

NOAEL Rat, Female, Male, Oral, 104 Weeks, >= 124,1 mg/kg, Oral Experimental result, Supporting study

NOAEL Hamster, Female, Male, Inhalation, 1,64 mg/l, Inhalation Experimental result, Other

NOAEL Rat, Female, Male, Oral, 104 Weeks, >= 164 mg/kg, Oral Experimental result, Supporting study

LOAEL Rat, Male, Oral, 14 d, > 200 mg/kg, Oral Experimental result, Other

2,2'-ethylenedioxydiethyl dimethacrylate NOAEL Rat, Female, Male, Oral, 5 - 6 Weeks, 1.000 mg/kg, Oral Experimental result, Key study

dodecane-1-thiol NOAEL Rat, Female, Male, Oral, >= 35 d, 50 mg/kg, Oral Read-across from supporting substance (structural analogue or surrogate), Key study

NOAEL Mouse, Female, Male, Inhalation, 0,02 mg/l, Inhalation Experimental result, Key study

NOAEL Rat, Female, Male, Inhalation, 0,01 mg/l, Inhalation Experimental result, Key study

Diethanol-p-toluidin NOAEL Rat, Female, Male, Oral, >= 28 d, 100 mg/kg, Oral Experimental result, Key study

RW531 AlphaGuard PUMA WP

2-hydroxyethyl
methacrylate

NOAEL Rat, Female, Male, Oral, 90 d, 600 - 1.000 mg/kg, Oral
Experimental result, Weight of evidence

NOAEL Mouse, Female, Male, Oral, 3.000 mg/kg, Oral Experimental
result, Weight of evidence

NOAEL >= 213,2 mg/kg, Oral Experimental result, Supporting study

NOAEL Rat, Male, Oral, 16 Weeks, 150 mg/kg, Oral Experimental result,
Weight of evidence

NOAEL Rat, Female, Male, Oral, 90 d, 1.000 - 1.500 mg/kg, Oral
Experimental result, Weight of evidence

Skin Corrosion/Irritation

Product:

Causes skin irritation.

Components:

dodecane-1-thiol

Category 1B, in vivo, Rabbit, 5 - 8 d, Experimental result, Key study

Diethanol-p-toluidin

Irritating, in vitro (validated and accepted), Human, 15 min,
Experimental result, Key study

2-hydroxyethyl
methacrylate

Slightly irritating, Rabbit, Not specified, Not specified

Serious Eye Damage/Eye Irritation

Product:

Based on available data, the classification criteria are not met.

Components:

2,2'-ethylenedioxydiethyl
dimethacrylate

Not irritant, in vivo, Rabbit, 24 - 72 hrs, CLP (1272/2008)

Diethanol-p-toluidin

Category 1, in vivo, Rabbit, 24 - 72 hrs, OECD GHS

RW531 AlphaGuard PUMA WP

2-hydroxyethyl
methacrylate

Irritating, in vivo, Rabbit, 7 d

Respiratory or Skin Sensitisation

Product: May cause an allergic skin reaction.

Components:

methyl methacrylate

Skin sensitisation:, in vivo, Mouse, Sensitising

2,2'-ethylenedioxydiethyl
dimethacrylate

Skin sensitisation:, in vivo, Guinea pig, Sensitising

Skin sensitisation:, in vivo, Mouse, Sensitising

dodecane-1-thiol

Skin sensitisation:, in vivo, Guinea pig, Sensitising

Skin sensitisation:, in vivo, Mouse, Sensitising

Diethanol-p-toluidin

Skin sensitisation:, in vivo, Mouse, Sensitising

2-hydroxyethyl
methacrylate

Skin sensitisation:, Guinea pig, Sensitising

Skin sensitisation:, Human, Sensitising

Skin sensitisation:, Human, ambiguous

Carcinogenicity

Product: Based on available data, the classification criteria are not met.

Germ Cell Mutagenicity

In vitro

RW531 AlphaGuard PUMA WP

Product: Based on available data, the classification criteria are not met.

In vivo

Product: Based on available data, the classification criteria are not met.

Reproductive toxicity

Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure

Product: May cause respiratory irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: Based on available data, the classification criteria are not met.

Aspiration Hazard

Product: Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Other information

Product: No data available.

SECTION 12: Ecological information

General information: Contains a substance which causes risk of hazardous effects to the environment.

12.1 Toxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
methyl methacrylate	LC 50, Oncorhynchus mykiss, 96 h, > 79 mg/lflow-through
Reaction mass of	LC 50, Danio rerio, 96 h, 0,9 mg/lsemi-static
bis(1,2,2,6,6-	LC 50, Lepomis macrochirus, 96 h, 0,97 mg/lflow-through
pentamethyl-4-piperidyl)	LC 0, Danio rerio, 96 h, 0,46 mg/lsemi-static
sebacate and methyl	LC 100, Lepomis macrochirus, 96 h, 1,64 mg/lflow-through
1,2,2,6,6-pentamethyl-4-	LC 0, Lepomis macrochirus, 96 h, 0,34 mg/lflow-through
piperidyl sebacate	
2,2'-ethylenedioxydiethyl	LC 50, Danio rerio, 96 h, 16,4 mg/lsemi-static, Experimental result, Key
dimethacrylate	study
	LC 50, Danio rerio, 24 h, 23,1 mg/lsemi-static
dodecane-1-thiol	LC 50, Oncorhynchus mykiss, 96 h, > 100 mg/lsemi-static, Experimental
	result, Key study
	NOAEL, Oncorhynchus mykiss, 96 h, 100 mg/lsemi-static, Experimental
	result, Key study
	LC 0, Oncorhynchus mykiss, 96 h, > 100 mg/lsemi-static
	LC 50, Oncorhynchus mykiss, 96 h, > 100 mg/lsemi-static
	LC 50, Oncorhynchus mykiss, 96 h, > 100 mg/lsemi-static
Diethanol-p-toluidin	LC 50, Cyprinus carpio, 96 h, > 100 mg/lStatic, Experimental result, Key
	study
	LC 50, Cyprinus carpio, 96 h, > 100 mg/lStatic
2-hydroxyethyl	LC 50, Oryzias latipes, 96 h, > 100 mg/l
methacrylate	LC 50, Pimephales promelas, 96 h, 227 mg/lflow-through
	LC 50, Oryzias latipes, 96 h, > 100 mg/lsemi-static

Aquatic Invertebrates

Product:	No data available.
Components:	
methyl methacrylate	EC 50, Daphnia magna, 48 h, 69 mg/lflow-through, Experimental result,
	Key study
Reaction mass of	EC 50, Daphnia magna, 24 h, 20 mg/lStatic, Experimental result, Other
bis(1,2,2,6,6-	EC 100, Daphnia magna, 24 h, 58 mg/lStatic, Experimental result, Other
pentamethyl-4-piperidyl)	
sebacate and methyl	
1,2,2,6,6-pentamethyl-4-	

RW531 AlphaGuard PUMA WP

piperidyl sebacate dodecane-1-thiol	EC 50, Daphnia magna, 48 h, 1 - 10 mg/lStatic, experimental result Experimental result, Key study NOAEL, Daphnia magna, 48 h, 0,14 mg/lStatic, experimental result Experimental result, Key study EC 50, Daphnia magna, 48 h, 1 - 10 mg/lStatic, Not specified, Other EC 50, Daphnia magna, 48 h, 1 - 10 mg/lStatic, Experimental result, Key study
Diethanol-p-toluidin	EC 50, Daphnia magna, 48 h, 48 mg/lStatic, experimental result Experimental result, Key study EC 50, Daphnia magna, 48 h, 48 mg/lStatic, Experimental result, Key study
2-hydroxyethyl methacrylate	EC 50, Daphnia magna, 48 h, 380 mg/lStatic, Experimental result, Key study

Toxicity to aquatic plants

Product: No data available.

Toxicity to microorganisms

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Components:

methyl methacrylate NOEL, Danio rerio, 9,4 mg/l, flow-through, experimental result
LC 50, Danio rerio, 33,7 mg/l, flow-through, experimental result

Aquatic Invertebrates

Product: No data available.

Components:

methyl methacrylate NOEC, Daphnia magna, 37 mg/l, flow-through, experimental result
Experimental result, Key study
EC 50, Daphnia magna, 49 mg/l, flow-through, experimental result
Experimental result, Key study
EC 50, Daphnia magna, 2,2 mg/l, semi-static, experimental result
Experimental result, Key study
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
2,2'-ethylenedioxydiethyl dimethacrylate LOAEL, Daphnia magna, 100 mg/l, semi-static, experimental result
Experimental result, Key study
EC 50, Daphnia magna, 51,9 mg/l, semi-static, experimental result
Experimental result, Key study
EC 10, Daphnia magna, 30,2 mg/l, semi-static, experimental result
Experimental result, Key study
EC 50, Daphnia magna, 51,9 mg/l, semi-static, experimental result
Experimental result, Key study
EC 50, Daphnia magna, 90,1 mg/l, semi-static, experimental result
Experimental result, Key study
2-hydroxyethyl methacrylate

RW531 AlphaGuard PUMA WP

LC 50, Daphnia magna, > 100 mg/l, semi-static, experimental result
Experimental result, Key study

Toxicity to microorganisms

Product: No data available.

12.2 Persistence and degradability

Biodegradation

Product: No data available.

Components:

methyl methacrylate	94 %, 14 d, Detected in water. Experimental result, Key study
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	38 %, 28 d, Detected in water. Experimental result, Key study
2,2'-ethylenedioxydiethyl dimethacrylate	61 %, 17 d, Detected in water. Experimental result, Key study
dodecane-1-thiol	85 %, 28 d, Detected in water. Experimental result, Key study
	30 %, 10 d, Detected in water. Experimental result, Supporting study
	39,2 %, 28 d, Detected in water. Experimental result, Supporting study
	39,2 %, 28 d, Detected in water. Not specified, Other
	> 0 %, 28 d, Detected in water. Read-across based on grouping of substances (category approach), Key study
Diethanol-p-toluidin	1,5 %, 29 d, Detected in water. Experimental result, Key study
2-hydroxyethyl methacrylate	84 %, 28 d, Detected in water. Experimental result, Supporting study
	98 %, 21 d, Detected in water. Experimental result, Supporting study
	92 - 100 %, 14 d, Detected in water. Experimental result, Key study
	86 - 87 %, 14 d, Detected in water. Experimental result, Key study

12.3 Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Components:

methyl methacrylate	2 - 6,59, Aquatic sediment estimated by calculation
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Cyprinus carpio, < 9,7, Aquatic sediment Experimental result, Key study
	Cyprinus carpio, < 31,4, Aquatic sediment Experimental result, Key study
2,2'-ethylenedioxydiethyl dimethacrylate	16, Aquatic sediment Not specified, Other
dodecane-1-thiol	Fish, 234, Aquatic sediment QSAR, Supporting study

Partition Coefficient n-octanol / water (log Kow)

Product: 1,38, 20 °C, Methyl methacrylate

12.4 Mobility in soil:

RW531 AlphaGuard PUMA WP

Product No data available.

12.5 Results of PBT and vPvB assessment:

Product This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects:

Other hazards
Product: Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: This material and/or its container must be disposed of as hazardous waste. Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied. Do not puncture or incinerate even when empty. Dispose of this material and its container to hazardous or special waste collection point.

European Waste Codes

Unused product: 08 01 11*: waste paint and varnish containing organic solvents or other dangerous substances

Contaminated Packaging: 15 01 10*: packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

ADR

14.1 UN number or ID number: UN 1866

14.2 UN proper shipping name: RESIN SOLUTION(dodecane-1-thiol, Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)

RW531 AlphaGuard PUMA WP

14.3 Transport hazard class(es)	
Class:	3
Label(s):	3
Classification Code:	F1
Hazard No. (ADR):	33
Tunnel restriction code:	(D/E)
14.4 Packing group:	II
Limited quantity	005 L
Excepted quantity	E2
14.5 Environmental hazards	
Environmentally Hazardous:	Yes
14.6 Special precautions for user:	None.

IMDG

14.1 UN number or ID number:	UN 1866
14.2 UN proper shipping name:	RESIN SOLUTION(dodecane-1-thiol, Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)
14.3 Transport hazard class(es)	
Class:	3
Label(s):	3
EmS No.:	F-E, S-E
14.4 Packing group:	II
Limited quantity	005 L
Excepted quantity	E2
14.5 Environmental hazards	
Marine pollutant:	Yes
14.6 Special precautions for user:	None.

IATA

14.1 UN number or ID number:	UN 1866
14.2 UN proper shipping name:	RESIN SOLUTION(dodecane-1-thiol, Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate)
14.3 Transport hazard class(es)	
Class:	3
Label(s):	3
14.4 Packing group:	II
Passenger and cargo aircraft :	353
Limited quantity	None.
Excepted quantity	E2
14.5 Environmental hazards	
Environmentally Hazardous:	Yes
14.6 Special precautions for user:	None.
Passenger and cargo aircraft:	Allowed. 353
Cargo aircraft only :	Allowed. 364

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

UK. REACH, Annex XIV, Substances Subject to Authorization (Authorization List), as amended: None present or none present in regulated quantities.

UK. UK REACH Candidate List of substances of very high concern (SVHCs) for Authorisation: None present or none present in regulated quantities.

UK. POPs List. SI Persistent Organic Pollutants Regulations 3106/2007, amended by UK POPs (Amendment) (EU Exit) Regulations 2020 (No. 1358), as amended: None present or none present in regulated quantities.

Regulation 2024/590/EC on substances that deplete the ozone layer, Annex II, New Substances: None present or none present in regulated quantities.

UK EXP1: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK EXP2: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK EXP3: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK BAN: UK. GB PIC List, Regulation (EU) 649/2012 as amended by EU Exit Regulations S.I. 2019/720 and S.I. 2020/1567, as amended: None present or none present in regulated quantities.

UK REACH List of restrictions (Annex 17):

Chemical name	CAS-No.	Number on list
methyl methacrylate	80-62-6	40, 3
2-hydroxyethyl methacrylate	868-77-9	3

Control of Major Accident Hazards Regulations 2015 (COMAH):

Classification	Lower-tier Requirements	Upper-tier Requirements
E2. Hazardous to the aquatic environment	200 t	500 t
P5c. Flammable liquids	5.000 t	50.000 t

International regulations

RW531 AlphaGuard PUMA WP

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

15.2 Chemical safety assessment: No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Date of first report version: 19.06.2025

Revision Date: 13.08.2025

Version #: 3.1

Abbreviations and acronyms:

EH40 WEL:	UK. EH40 Workplace Exposure Limits (WELs)
EH40 WEL / STEL:	Short Term Exposure Limit (STEL)
EH40 WEL / TWA:	Time Weighted Average (TWA)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EIGA - European Industrial Gases Association; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECL - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and

RW531 AlphaGuard PUMA WP

of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Notes:

Note D	Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.
--------	--

Key literature references and sources for data: No data available.

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Classification	Classification procedure
Flammable liquids, Category 2	On basis of test data
Skin irritation, Category 2	Calculation method
Skin sensitiser, Category 1	On basis of test data
Specific Target Organ Toxicity - Single Exposure, Category 3	Calculation method
Chronic hazards to the aquatic environment, Category 2	On basis of test data

Wording of the statements in section 3

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training information: No data available.

RW531 AlphaGuard PUMA WP

Disclaimer:

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.