

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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Pumaflow ESD Hardener

Revision 2

Revision date 2018-12-17

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

1.1. Product identifier

Product name	Pumaflow ESD Hardener
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Description	Restricted to professional users. Component of a Three Pack Epoxy Floor Topping.
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1.3. Details of the supplier of the safety data sheet

Company	Resdev Ltd
Address	Pumaflor House Ainleys Industrial Estate Elland HX5 9JP
Web	www.resdev.co.uk
Telephone	+44 (0)1422 379131
Fax	+44 (0)1422 370943
Email	info@resdev.co.uk
Email address of the competent person	info@resdev.co.uk

1.4. Emergency telephone number


Emergency telephone number	+44 (0)1422 379131 9.00am to 5.00pm Mon - Fri
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC	C; R34 Xn; R20/21/22 Xi; R43 R52/53 Symbols: C: Corrosive.
Main hazards	Harmful by inhalation, in contact with skin and if swallowed. Causes burns. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2.1.2. Classification - EC 1272/2008	Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Acute Tox. 4: H332; Aquatic Chronic 3: H412;

2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Acute Tox. 4: H302 - Harmful if swallowed. Skin Corr. 1B: H314 - Causes severe skin burns and eye damage. Skin Sens. 1: H317 - May cause an allergic skin reaction.

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2.2. Label elements

Precautionary Statement: Prevention	Acute Tox. 4: H332 - Harmful if inhaled. Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
	P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302+P352 - IF ON SKIN: Wash with plenty of water/ . P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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/ . P312 - Call a POISON CENTER/doctor/ if you feel unwell. P321 - Specific treatment (see on this label). P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse.
Precautionary Statement: Storage	P405 - Store locked up.
Precautionary Statement: Disposal	P501 - Dispose of contents/container to local and national regulations

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Benzyl alcohol	603-057-00-5	100-51-6	202-859-9	01-2119492630-38 01-2119492630-38	30 - 40%	Xn; R20/22	
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	612-067-00-9	2855-13-2	220-666-8	01-2119965165-33 01-2119965165-33	30 - 40%	Xn; R21/22 C; R34 R43 R52/53	
Benzene-1,3-dimethanamine		1477-55-0	216-032-5	01-2119480150-50	1 - 10%	C; R34 Xn; R20/22 R52/53	
Salicylic Acid		69-72-7	200-712-3	01-2119486984-17	1 - 10%		

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Benzyl alcohol	603-057-00-5	100-51-6	202-859-9	01-2119492630-38 01-2119492630-38	30 - 40%	Acute Tox. 4: H332; Acute Tox. 4: H302;	
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	612-067-00-9	2855-13-2	220-666-8	01-2119965165-33 01-2119965165-33	30 - 40%	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412;	
Benzene-1,3-dimethanamine		1477-55-0	216-032-5	01-2119480150-50	1 - 10%	Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Acute Tox. 4: H332; Aquatic Chronic 3: H412;	

Description

Three Pack Epoxy Floor Topping.

Further information

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Further information

	If REACH registration numbers do not appear the substance is either exempt from registration, does not meet the minimum volume threshold for registration, or the registration date has not yet come due. Refer to section 16 for full text of each relevant R-phrases and H-phrases.
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SECTION 4: First aid measures

4.3. Indication of any immediate medical attention and special treatment needed

Inhalation	Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call physician or transport to a medical facility.
Eye contact	Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation preferably from an ophthalmologist. Eye wash fountain should be located in immediate work area.
Skin contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before re-use. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Safety shower should be located in immediate work area,.
Ingestion	Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

General information

	First aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
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Further information

	Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. If burn is present, treat as any thermal burn after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
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Further information

Unusual fire/explosion Hazards	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Protection of fire-fighters.	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Avoid contact with this material during fire fighting operations. If contact is likely change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Other Information	Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage.

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Further information

Unsuitable Extinguishing Media	Do not use direct water stream. May spread fire.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Ventilate area of leak or spill. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information refer to Section 8, Exposure Controls and Personal Protection.
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6.2. Environmental precautions

	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
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6.3. Methods and material for containment and cleaning up

	Contain spilled material if possible. Absorb with materials such as: Sand. Collect in suitable and properly labeled containers. See section 13, Disposal Considerations, for additional information.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

	Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. See section 8. EXPOSURE CONTROL AND PERSONAL PROTECTION.
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7.2. Conditions for safe storage, including any incompatibilities

	No specific requirements.
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7.3. Specific end use(s)

	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/personal protection

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.
Eye / face protection	Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.
Skin protection - Handprotection	Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Skin protection - Other	Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron or full body suit will depend on the task.
Respiratory protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limits requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency

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8.2. Exposure controls

	conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C).
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Further information

General protective and hygiene measures	Avoid ingestion of even very small amounts: do not consume or store food or tobacco in the work area: wash hands and face before smoking or eating.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless
Odour	Amine
Odour threshold	No data available
pH	No data available
Melting point	No data available
Freezing Point	No data available
Initial boiling point	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Fat Solubility	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available
Solubility	No data available

9.2. Other information

Conductivity	No data available
Surface tension	No data available
Gas group	No data available
Benzene Content	No data available
Lead content	No data available
VOC (Volatile organic compounds)	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

	No dangerous reactions known.
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10.2. Chemical stability

	Stable at standard temperatures and pressure.
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10.3. Possibility of hazardous reactions

	Polymerization will not occur.
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10.4. Conditions to avoid

	Exposure to elevated temperatures can cause product to decompose. Generation of gas during
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10.4. Conditions to avoid

	decomposition can cause pressure in closed systems. Reaction with carbon dioxide may foam an amine carbanate. Smoke may be generated depending on vapor pressure of mixture. Product absorbs carbon dioxide from the air.
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10.5. Incompatible materials

	Avoid contact with oxidizing materials. Avoid contact with: Acids. Acrylates. Alcohols. Aldehydes. Halogenated hydrocarbons. Ketones. Nitrites. avoid contact with metals such as: Brass. Bronze. Copper. Copper alloys. Avoid contact with absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Sawdust.
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10.6. Hazardous decomposition products

	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Ammonia. Ethylenediamine. Volatile amines.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	No data is available on this product.
Skin corrosion/irritation	No data is available on this product.
Serious eye damage/irritation	No data is available on this product.
Respiratory or skin sensitisation	No data is available on this product.
Germ cell mutagenicity	No data is available on this product.
Carcinogenicity	No data is available on this product.
Reproductive toxicity	No data is available on this product.

11.1.4. Toxicological Information

	No data available
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Further information

Inhalation	Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Prolonged excessive exposure may cause serious adverse effects, even death. No relevant information found.
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SECTION 12: Ecological information

12.1. Toxicity

	No data available
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12.2. Persistence and degradability

	No data is available on this product.
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12.3. Bioaccumulative potential

	No data is available on this product.
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Partition coefficient

	Pumaflow ESD Hardener No data available
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12.4. Mobility in soil

	No data is available on this product.
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12.5. Results of PBT and vPvB assessment

	No data is available on this product.
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12.6. Other adverse effects

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12.6. Other adverse effects

No data is available on this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 91/869/EEC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residue materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

SECTION 14: Transport information

Hazard pictograms



14.1. UN number

UN2735

14.2. UN proper shipping name

AMINES, LIQUID, CORROSIVE N.O.S.

14.3. Transport hazard class(es)

ADR/RID	8
Subsidiary risk	-
IMDG	8
Subsidiary risk	-
IATA	8
Subsidiary risk	-

14.4. Packing group

Packing group II

14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

ADR/RID

Hazard ID	80
Tunnel Category	(E)

IMDG

EmS Code	F-A S-B
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IATA

Packing Instruction (Cargo)	855
Maximum quantity	30 L
Packing Instruction (Passenger)	851
Maximum quantity	1 L

SECTION 15: Regulatory information

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

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

	<p>"COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC".</p> <p>"REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC".</p>
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15.2. Chemical safety assessment

	For advice on essential measures see sections 7 and 8 of this safety data sheet.
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SECTION 16: Other information

Other information

	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision	<p>This document differs from the previous version in the following areas:.</p> <p>2 - Precautionary Statement: Disposal.</p> <p>3 - Further information.</p> <p>12 - 12.1. Toxicity.</p>
Text of risk phrases in Section 3	<p>R20/22 - Harmful by inhalation and if swallowed.</p> <p>R21/22 - Harmful in contact with skin and if swallowed.</p> <p>R22 - Harmful if swallowed.</p> <p>R34 - Causes burns.</p> <p>R41 - Risk of serious damage to eyes.</p> <p>R43 - May cause sensitisation by skin contact.</p> <p>R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p>
Text of Hazard Statements in Section 3	<p>Acute Tox. 4: H302 - Harmful if swallowed.</p> <p>Acute Tox. 4: H332 - Harmful if inhaled.</p> <p>Acute Tox. 4: H312 - Harmful in contact with skin.</p> <p>Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.</p> <p>Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled</p>

General information

	This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy.
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Further information

	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.
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