

EU Material safety data sheet

Armaflex 520

valid for

**Adhesive for caoutchoc insulation
Armaflex 520**

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Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

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

1.1 Product identifier

Trade name

Armaflex 520

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

Relevant identified uses of the substance or mixture

Adhesive for processing all flexible Armaflex insulation materials (except HT/Armaflex and Armaflex Ultima)

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet

Address

Armacell GmbH
Robert-Bosch-Straße 10
48153 Münster

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Information provided by / telephone

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Advice on Safety Data Sheet

heribert.quante@armacell.com

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Eye Irrit. 2; H319

Flam. Liq. 2; H225

Skin Irrit. 2; H315

STOT SE 3; H336

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms



GHS02



GHS07



GHS09

Signal word

Danger

Hazardous component(s) to be indicated on label:

cyclohexane

ethyl-acetate

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Hazard statement(s)

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.

Hazard statements (EU)

EUH208 Contains colophony. May produce an allergic reaction.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P501 Dispose of contents/container to a facility in accordance with local and national regulations.

2.3 Other hazards

Vapours can form an explosive mixture with air.

PBT assessment

The components of this product are not considered to be a PBT.

vPvB assessment

The components of this product are not considered to be a vPvB.

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SECTION 3: Composition/information on ingredients
3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures
Hazardous ingredients

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration
			%
1	cyclohexane		
	110-82-7 203-806-2 601-017-00-1 01-2119463273-41	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336	>= 25.00 - < 50.00 %-b.w.
2	ethyl-acetate		
	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	EUH066 Eye Irrit. 2; H319 Flam. Liq. 2; H225 STOT SE 3; H336	>= 25.00 - < 50.00 %-b.w.
3	acetone		
	67-64-1 200-662-2 606-001-00-8 01-2119471330-49	EUH066 Eye Irrit. 2; H319 Flam. Liq. 2; H225 STOT SE 3; H336	>= 10.00 - < 25.00 %-b.w.
4	Low boiling point hydrogen treated naphtha, Naphtha (petroleum), hydrotreated light		
	64742-49-0 265-151-9 649-328-00-1 01-2119475133-43	Aquatic Chronic 2; H411 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336	>= 10.00 - < 25.00 %-b.w.
5	butanone		
	78-93-3 201-159-0 606-002-00-3 01-2119457290-43	EUH066 Eye Irrit. 2; H319 Flam. Liq. 2; H225 STOT SE 3; H336	< 5.00 %-b.w.
6	propan-2-ol		
	67-63-0 200-661-7 603-117-00-0 01-2119457558-25	Eye Irrit. 2; H319 Flam. Liq. 2; H225 STOT SE 3; H336	< 2.50 %-b.w.
7	n-hexane		
	110-54-3 203-777-6 601-037-00-0 01-2119480412-44	Aquatic Chronic 2; H411 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Repr. 2; H361f Skin Irrit. 2; H315 STOT RE 2; H373 STOT SE 3; H336	< 2.50 %-b.w.
8	zinc oxide		
	1314-13-2 215-222-5 030-013-00-7 01-2119463881-32	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 1.00 %-b.w.
9	colophony		
	8050-09-7 232-475-7 650-015-00-7 01-2119480418-32	Skin Sens. 1; H317	>= 0.10 - < 1.00 %-b.w.
10	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)		
	119-47-1 204-327-1 - 01-2119496065-33	Repr. 2; H361f	< 1.00 %-b.w.

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11	4-tert-butylphenol			
	98-54-4 202-679-0 604-090-00-8 01-2119489419-21	Aquatic Chronic 1; H410 Eye Dam. 1; H318 Repr. 2; H361f Skin Irrit. 2; H315	< 1.00	%-b.w.

Full Text for all H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
4	P	-	-	-
8	-	-	M = 1	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation

When inhaled remove to fresh air and seek medical aid.

After skin contact

When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Get immediate ophthalmic treatment.

After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide; Dry chemical extinguisher; Foam; Water spray jet

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO₂)

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations. Containers close to fire should be transferred to a safe place.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Exclude sources of ignition and ventilate the area. Do not inhale vapours. Remove persons to safety. Ensure adequate ventilation.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. In case of entry into waterways, soil or drains, inform the responsible authorities.

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6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Provide good ventilation at the work area (local exhaust ventilation, if necessary). Product inherent handling risks must be minimised taking the appropriate measures for protection and preventive actions. The working process should be designed to rule out the release of hazardous substances or skin contact as far it is possible by the state of the art.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Remove soiled or soaked clothing immediately. Avoid contact with eyes and skin. Do not inhale vapours. Provide eye wash fountain in work area.

Advice on protection against fire and explosion

Keep away from sources of ignition - refrain from smoking. Take precautionary measures against static charges. No sparking tools should be used. Vapours can form an explosive mixture with air.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed in a cool, well-ventilated place. Protect from heat and direct sunlight.

Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original one.

Advice on storage assembly

Do not store together with: Acids; Bases

7.3 Specific end use(s)

No data available.

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SECTION 8: Exposure controls/personal protection
8.1 Control parameters
Occupational exposure limit values

No	Substance name	CAS no.		EC no.	
1	cyclohexane	110-82-7		203-806-2	
	List of approved workplace exposure limits (WELs) / EH40				
	Cyclohexane				
	STEL	1050	mg/m ³	300	ml/m ³
	TWA	350	mg/m ³	100	ml/m ³
	2006/15/EC				
	Cyclohexane				
	TWA	700	mg/m ³	200	ppm
2	ethyl-acetate	141-78-6		205-500-4	
	List of approved workplace exposure limits (WELs) / EH40				
	Ethyl acetate				
	STEL			400	ml/m ³
	TWA			200	ml/m ³
	2017/164/EU				
	Ethyl acetate				
	STEL	1468	mg/m ³	400	ppm
	TWA	734	mg/m ³	200	ppm
3	acetone	67-64-1		200-662-2	
	List of approved workplace exposure limits (WELs) / EH40				
	Acetone				
	STEL	3620	mg/m ³	1500	ml/m ³
	TWA	1810	mg/m ³	500	ml/m ³
	2000/39/EC				
	Acetone				
	TWA	1210	mg/m ³	500	ppm
4	butanone	78-93-3		201-159-0	
	List of approved workplace exposure limits (WELs) / EH40				
	Butan-2-one				
	STEL	899	mg/m ³	300	ml/m ³
	TWA	600	mg/m ³	200	ml/m ³
	Skin resorption / sensibilisation				
	Sk				
	2000/39/EC				
	Butanone				
	STEL	900	mg/m ³	300	ppm
	TWA	600	mg/m ³	200	ppm
5	propan-2-ol	67-63-0		200-661-7	
	List of approved workplace exposure limits (WELs) / EH40				
	Propan-2-ol				
	STEL	1250	mg/m ³	500	ml/m ³
	TWA	999	mg/m ³	400	ml/m ³
6	n-hexane	110-54-3		203-777-6	
	List of approved workplace exposure limits (WELs) / EH40				
	n-Hexane				
	TWA	72	mg/m ³	20	ml/m ³
	2006/15/EC				
	n-Hexane				
	TWA	72	mg/m ³	20	ppm
7	zinc oxide	1314-13-2		215-222-5	
	List of approved workplace exposure limits (WELs) / EH40				
	Zinc oxide, fume				
	STEL	10	mg/m ³		
	TWA	5	mg/m ³		

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DNEL, DMEL and PNEC values
DNEL values (worker)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	cyclohexane			110-82-7 203-806-2	
	inhalative	Short term (acute)	systemic	700	mg/m ³
2	ethyl-acetate			141-78-6 205-500-4	
	dermal	Long term (chronic)	systemic	63	mg/kg/day
	inhalative	Short term (acute)	systemic	1468	mg/m ³
	inhalative	Long term (chronic)	local	734	mg/m ³
	inhalative	Short term (acute)	local	1468	mg/m ³
	inhalative	Long term (chronic)	systemic	734	mg/m ³
3	acetone			67-64-1 200-662-2	
	dermal	Long term (chronic)	systemic	186	mg/kg/day
	inhalative	Short term (acute)	local	2420	mg/m ³
	inhalative	Short term (acute)	systemic	1210	mg/m ³
4	butanone			78-93-3 201-159-0	
	dermal	Long term (chronic)	systemic	1161.00	mg/kg/day
	inhalative	Long term (chronic)	systemic	600.00	mg/m ³
5	propan-2-ol			67-63-0 200-661-7	
	dermal	Long term (chronic)	systemic	888	mg/kg/day
	inhalative	Long term (chronic)	systemic	500	mg/m ³
6	n-hexane			110-54-3 203-777-6	
	dermal	Long term (chronic)	systemic	11	mg/kg
	inhalative	Long term (chronic)	systemic	75	mg/m ³
7	zinc oxide			1314-13-2 215-222-5	
	dermal	Long term (chronic)	systemic	83	mg/kg/day
	with reference to: Zn Remarks: insoluble				
8	inhalative	Long term (chronic)	systemic	5	mg/m ³
	with reference to: Zn Remarks: insoluble				
	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)			119-47-1 204-327-1	
	dermal	Long term (chronic)	systemic	0.635	mg/kg/day
	dermal	Short term (acute)	systemic	3.175	mg/kg/day
9	inhalative	Long term (chronic)	systemic	4.48	mg/m ³
	inhalative	Short term (acute)	systemic	22.4	mg/m ³
	4-tert-butylphenol			98-54-4 202-679-0	
	dermal	Long term (chronic)	systemic	0.071	mg/kg/day
	inhalative	Long term (chronic)	systemic	0.5	mg/m ³

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DNEL value (consumer)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	cyclohexane			110-82-7 203-806-2	
	dermal	Long term (chronic)	systemic	2016	mg/kg
	inhalative	Short term (acute)	local	700	mg/m ³
	inhalative	Long term (chronic)	systemic	700	mg/m ³
	inhalative	Long term (chronic)	local	700	mg/m ³
2	ethyl-acetate			141-78-6 205-500-4	
	oral	Long term (chronic)	systemic	4.5	mg/kg/day
	dermal	Long term (chronic)	systemic	37	mg/kg/day
	inhalative	Short term (acute)	systemic	734	mg/m ³
	inhalative	Long term (chronic)	local	367	mg/m ³
	inhalative	Short term (acute)	local	734	mg/m ³
	inhalative	Long term (chronic)	systemic	367	mg/m ³
3	acetone			67-64-1 200-662-2	
	oral	Long term (chronic)	systemic	62	mg/kg/day
	dermal	Long term (chronic)	systemic	62	mg/kg/day
	inhalative	Long term (chronic)	systemic	200	mg/m ³
4	butanone			78-93-3 201-159-0	
	oral	Long term (chronic)	systemic	31.00	mg/kg/day
	dermal	Long term (chronic)	systemic	412.00	mg/kg/day
	inhalative	Long term (chronic)	systemic	106.00	mg/m ³
5	propan-2-ol			67-63-0 200-661-7	
	oral	Long term (chronic)	systemic	26	mg/kg/day
	dermal	Long term (chronic)	systemic	319	mg/kg/day
	inhalative	Long term (chronic)	systemic	89	mg/m ³
6	n-hexane			110-54-3 203-777-6	
	oral	Long term (chronic)	systemic	4	mg/kg
	dermal	Long term (chronic)	systemic	5.3	mg/kg
	inhalative	Long term (chronic)	systemic	16	mg/m ³
7	zinc oxide			1314-13-2 215-222-5	
	oral	Long term (chronic)	systemic	0.83	mg/kg/day
	with reference to: Zn Remarks: insoluble				
	dermal	Long term (chronic)	systemic	83	mg/kg/day
	with reference to: Zn Remarks: insoluble				
	inhalative	Long term (chronic)	systemic	2.5	mg/m ³
with reference to: Zn Remarks: insoluble					
8	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)			119-47-1 204-327-1	
	oral	Long term (chronic)	systemic	0.318	mg/kg/day
	oral	Short term (acute)	systemic	1.59	mg/kg/day
	dermal	Long term (chronic)	systemic	0.318	mg/kg/day
	dermal	Short term (acute)	systemic	1.59	mg/kg/day
	inhalative	Long term (chronic)	systemic	1.1	mg/m ³
	inhalative	Short term (acute)	systemic	5.5	mg/m ³
9	4-tert-butylphenol			98-54-4 202-679-0	
	oral	Long term (chronic)	systemic	0.026	mg/kg/day
	dermal	Long term (chronic)	systemic	0.026	mg/kg/day
	inhalative	Long term (chronic)	systemic	0.09	mg/m ³

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PNEC values

No	Substance name	CAS / EC no	
	ecological compartment	Type	Value
1	cyclohexane		110-82-7 203-806-2
	water	fresh water	0.207 mg/L
	water	marine water	0.207 mg/L
	water	fresh water sediment	3.267 mg/kg
	water	marine water sediment	3.267 mg/kg
	soil	-	2.99 mg/kg
2	ethyl-acetate		141-78-6 205-500-4
	water	fresh water	0.24 mg/L
	water	marine water	0.024 mg/L
	water	Aqua intermittent	1.65 mg/L
	water	fresh water sediment	1.15 mg/kg dry weight
	water	marine water sediment	0.115 mg/kg dry weight
	soil	-	0.148 mg/kg dry weight
	sewage treatment plant	-	650 mg/L
	secondary poisoning	-	200 mg/kg
3	acetone		67-64-1 200-662-2
	water	fresh water	10.6 mg/L
	water	marine water	1.06 mg/L
	water	Aqua intermittent	21 mg/L
	water	fresh water sediment	30.4 mg/kg
	water	marine water sediment	3.04 mg/kg
	soil	-	29.5 mg/kg
	sewage treatment plant	-	100 mg/L
	4	butanone	
water		fresh water	55.80 mg/L
water		marine water	55.80 mg/L
water		Aqua intermittent	55.8 mg/L
water		fresh water sediment	284.74 mg/kg
with reference to: dry weight			
water		marine water sediment	284.7 mg/kg
with reference to: dry weight			
soil		-	22.5 mg/kg
with reference to: dry weight			
sewage treatment plant		-	709 mg/L
secondary poisoning	-	1000 mg/kg	
with reference to: food			
5	propan-2-ol		67-63-0 200-661-7
	water	fresh water	140.9 mg/L
	water	marine water	140.9 mg/L
	water	fresh water sediment	552 mg/L
	water	marine water sediment	552 mg/L
	water	Aqua intermittent	140.9 mg/L
	soil	-	28 mg/kg
	sewage treatment plant	-	2251 mg/L
	secondary poisoning	-	160 mg/kg
with reference to: food			
6	zinc oxide		1314-13-2 215-222-5
	water	fresh water	20.6 µg/L
	with reference to: Zn		
	water	marine water	6.1 µg/L
	with reference to: Zn		
	water	fresh water sediment	117.8 mg/kg
	water	marine water sediment	56.5 mg/kg
	with reference to: Zn, dry weight		
soil	-	35.6 mg/kg	
with reference to: Zn, dry weight			

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	sewage treatment plant	-	100	µg/L
7	4-tert-butylphenol		98-54-4 202-679-0	
	water	fresh water	0.01	mg/L
	water	marine water	0.001	mg/L
	water	Aqua intermittent	0.048	mg/L
	water	fresh water sediment	0.975	mg/kg
	water	marine water sediment	0.0975	mg/kg
	soil	-	0.324	mg/kg
	with reference to: dry weight			
	sewage treatment plant	-	1.5	mg/L

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Respirator A

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves. In case of short-term contact / splash protection:

Appropriate Material	Polychloroprene		
Material thickness	0.75	mm	
Breakthrough time	30 - 120	min	

Other

fire-resistant antistatic protective clothing

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour	
liquid	
clear	
Odour	
characteristic	
Odour threshold	
No data available	
pH value	
No data available	
Boiling point / boiling range	
Value	55 °C
Melting point / melting range	
No data available	
Decomposition point / decomposition range	
No data available	
Flash point	
Value	-15 °C
Method	closed cup

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Auto-ignition temperature			
No data available			
Oxidising properties			
No data available			
Explosive properties			
No data available			
Flammability (solid, gas)			
No data available			
Lower flammability or explosive limits			
No data available			
Upper flammability or explosive limits			
No data available			
Vapour pressure			
No data available			
Vapour density			
No data available			
Evaporation rate			
No data available			
Relative density			
Value	0.85		
Density			
No data available			
Solubility in water			
Remarks	immiscible		
Solubility(ies)			
No data available			
Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
	log Pow	6.8	
	Reference temperature	25	°C
	Source	ECHA	
2	butanone	78-93-3	201-159-0
	log Pow	0.3	
	Reference temperature	40	°C
	Method	OECD 117	
	Source	ECHA	
3	propan-2-ol	67-63-0	200-661-7
	log Pow	0.05	
	Reference temperature	25	°C
	Source	ECHA	
4	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
	log Pow	6.25	
	Reference temperature	20	°C
	Method	OECD 107	
	Source	ECHA	
5	4-tert-butylphenol	98-54-4	202-679-0
	log Pow	3	
	Reference temperature	23	°C
	Method	OECD 117	
	Source	ECHA	
Viscosity			
Value	>	1000	mm ² /s
Reference temperature		40	°C
Type	kinematic		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

None, if handled according to order.

10.4 Conditions to avoid

Heat, naked flames and other ignition sources.

10.5 Incompatible materials

strong acids; strong bases

10.6 Hazardous decomposition products

None, if handled according to intended use.

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
LD50	>	5000	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	ethyl-acetate	141-78-6	205-500-4
LD50	>	5600	mg/kg bodyweight
Species	rat		
Source	ECHA		
3	acetone	67-64-1	200-662-2
LD50		5800	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
4	butanone	78-93-3	201-159-0
LD50		3460	mg/kg bodyweight
Species	rat		
Method	OECD 423		
Source	ECHA		
5	propan-2-ol	67-63-0	200-661-7
LD50		5840	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
6	zinc oxide	1314-13-2	215-222-5
LD50	>	5000	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
7	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
LD50	>	5000	mg/kg bodyweight
Species	rat		
Source	ECHA		
8	4-tert-butylphenol	98-54-4	202-679-0
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Acute dermal toxicity			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
LD50	>	2000	mg/kg bodyweight
Species	rabbit		
Method	OECD 402		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	ethyl-acetate	141-78-6	205-500-4
LD50	>	20000	mg/kg bodyweight
Species	rabbit		
Source	ECHA		
3	acetone	67-64-1	200-662-2
LD50	>	15800	mg/kg bodyweight
Species	rabbit		
Source	ECHA		
4	zinc oxide	1314-13-2	215-222-5
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 402		
Source	ECHA		
5	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
LD50	>	10000	mg/kg bodyweight
Species	rabbit		
Source	ECHA		
Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
LC50	>	19.07	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	acetone	67-64-1	200-662-2
LC50		76	mg/l
Duration of exposure		4	h
State of aggregation	Vapour		
Species	rat		
Source	ECHA		
3	propan-2-ol	67-63-0	200-661-7
LC50	>	10000	ppmV
Duration of exposure		6	h
State of aggregation	Gas		
Species	rat		
Method	OECD 403		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
4	zinc oxide	1314-13-2	215-222-5
LC50	>	5.7	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
Method	OECD 403		
Source	ECHA		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	low-irritant		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	butanone	78-93-3	201-159-0
Duration of exposure		4	h
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
3	propan-2-ol	67-63-0	200-661-7
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
Evaluation/classification	Based on available data, the classification criteria are not met.		
4	zinc oxide	1314-13-2	215-222-5
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
5	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
6	4-tert-butylphenol	98-54-4	202-679-0
Duration of exposure		4	h
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	strongly irritant		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	low-irritant	
2	butanone	78-93-3	201-159-0
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	irritant	
3	propan-2-ol	67-63-0	200-661-7
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	irritant	
	Evaluation/classification	Based on available data, the classification criteria are met.	
4	zinc oxide	1314-13-2	215-222-5
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	non-irritant	
5	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	non-irritant	
6	4-tert-butylphenol	98-54-4	202-679-0
	Duration of exposure	21	day(s)
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	Irreversible effects on the eye	

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
Route of exposure		Skin	
Species		guinea pig	
Method		OECD 406	
Source		ECHA	
Evaluation		non-sensitizing	
2	butanone	78-93-3	201-159-0
Route of exposure		Skin	
Species		guinea pig	
Method		OECD 406	
Source		ECHA	
Evaluation		non-sensitizing	
3	propan-2-ol	67-63-0	200-661-7
Route of exposure		Skin	
Species		guinea pig	
Method		OECD 406	
Source		ECHA	
Evaluation		non-sensitizing	
Evaluation/classification		Based on available data, the classification criteria are not met.	
4	zinc oxide	1314-13-2	215-222-5
Route of exposure		respiratory tract	
Source		ECHA	
Evaluation		non-sensitizing	
Evaluation/classification		Based on available data, the classification criteria are not met.	
Route of exposure		Skin	
Species		Guinea pig	
Method		OECD 406	
Source		ECHA	
Evaluation		non-sensitizing	
Evaluation/classification		Based on available data, the classification criteria are not met.	
5	4-tert-butylphenol	98-54-4	202-679-0
Route of exposure		Skin	
Duration of exposure		72	h
Species		guinea pig	
Method		OECD 406	
Source		ECHA	
Evaluation		non-sensitizing	
Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	butanone	78-93-3	201-159-0
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	
2	propan-2-ol	67-63-0	200-661-7
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	
Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
Route of exposure		oral	
NOAEL		50	mg/kg
Species		rat (male)	
Method		OECD 421	
Source		ECHA	
2	4-tert-butylphenol	98-54-4	202-679-0
Type of examination		2 generation study	
Species		rat	
Method		OECD 416	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Carcinogenicity			
No data available			
STOT - single exposure			
No data available			
STOT - repeated exposure			
No	Substance name	CAS no.	EC no.
1	4-tert-butylphenol	98-54-4	202-679-0
Route of exposure		oral	
NOAEL		650	mg/kg
Duration of exposure		14	week/s
Species		rat	
Method		EPA	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	
Aspiration hazard			
Based on available data, the classification criteria are not met.			

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
LC50		4.53	mg/l
Duration of exposure		96	h
Species		Pimephales promelas	
Method		OECD 203	
Source		ECHA	
2	ethyl-acetate	141-78-6	205-500-4
LC50		230	mg/l
Duration of exposure		96	h
Species		Pimephales promelas	
Source		ECHA	
3	acetone	67-64-1	200-662-2
LC50		5540	mg/l
Duration of exposure		96	h
Species		Oncorhynchus mykiss	
Source		ECHA	
4	butanone	78-93-3	201-159-0
LC50		2993	mg/l
Duration of exposure		96	h
Species		Pimephales promelas	
Method		OECD 203	
Source		ECHA	
5	propan-2-ol	67-63-0	200-661-7
LC50		9640	mg/l
Duration of exposure		96	h
Species		Pimephales promelas	
Method		OECD 203	
Source		ECHA	
6	4-tert-butylphenol	98-54-4	202-679-0
LC50		>	1
Duration of exposure			96
Species		Oncorhynchus mykiss	
Method		OECD 203	
Source		ECHA	
Toxicity to fish (chronic)			
No	Substance name	CAS no.	EC no.
1	4-tert-butylphenol	98-54-4	202-679-0
NOEC		0.01	mg/l
Duration of exposure		128	day(s)
Species		Pimephales promelas	
Method		OECD 210	
Source		ECHA	

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
EC50		0.9	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
2	ethyl-acetate	141-78-6	205-500-4
EC50		1350	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Source	ECHA		
3	acetone	67-64-1	200-662-2
EC50		8800	mg/l
Duration of exposure		48	h
Species	Daphnia pulex		
Source	ECHA		
4	butanone	78-93-3	201-159-0
EC50		308	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
5	4-tert-butylphenol	98-54-4	202-679-0
EC50	appr.	4.8	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
Toxicity to Daphnia (chronic)			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
NOEC		82	µg/l
Duration of exposure		7	day(s)
Species	Daphnia magna		
with reference to	pH 6.0		
Source	CSR		
2	4-tert-butylphenol	98-54-4	202-679-0
NOEC		0.73	mg/l
Duration of exposure		21	day(s)
Species	Daphnia magna		
Method	OECD 211		
Source	ECHA		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
ErC50		>	4.425 mg/l
Duration of exposure		72	h
Species	Pseudokirchneriella subcapitata		
Method	OECD 201		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		
2	butanone	78-93-3	201-159-0
EC50		2029	mg/l
Duration of exposure		96	h
Species	Pseudokirchneriella subcapitata		
Method	OECD 201		
Source	ECHA		
3	zinc oxide	1314-13-2	215-222-5
EC50		0.042	mg/l
Duration of exposure		72	h
Species	Algae		
Source	Manufacturer		
4	4-tert-butylphenol	98-54-4	202-679-0
EC50		appr. 14	mg/l
Duration of exposure		72	h
Species	Pseudokirchneriella subcapitata		
Method	OECD 201		
Source	ECHA		
Toxicity to algae (chronic)			
No	Substance name	CAS no.	EC no.
1	cyclohexane	110-82-7	203-806-2
NOEC		0.9	mg/l
Duration of exposure		72	h
Species	Pseudokirchneriella subcapitata		
Method	OECD 201		
Source	ECHA		
2	zinc oxide	1314-13-2	215-222-5
NOEC		19	µg/l
Duration of exposure		7	day(s)
Species	Pseudokirchneriella subcapitata		
with reference to	pH 8.0		
Source	CSR		
Bacteria toxicity			
No	Substance name	CAS no.	EC no.
1	4-tert-butylphenol	98-54-4	202-679-0
EC50		>	10 mg/l
Duration of exposure		3	h
Species	activated sludge		
Method	OECD 209		
Source	ECHA		

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
Source Evaluation		ECHA readily biodegradable	
2	acetone	67-64-1	200-662-2
Type		aerobic biodegradation	
Value		90.9	%
Duration		28	day(s)
Method		OECD 301 B	
Source Evaluation		ECHA readily biodegradable	
3	butanone	78-93-3	201-159-0
Type		aerobic biodegradation	
Value		98	%
Duration		28	day(s)
Method		OECD 301 D	
Source Evaluation		ECHA readily biodegradable	
4	propan-2-ol	67-63-0	200-661-7
Type		BOD/COD	
Value		53	%
Duration		5	day(s)
Source Evaluation		ECHA readily biodegradable	
5	4-tert-butylphenol	98-54-4	202-679-0
Type		aerobic biodegradation	
Value		42	- 60 %
Duration		28	day(s)
Method		OECD 301 F	
Source Evaluation		ECHA not readily biodegradable	

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)			
No	Substance name	CAS no.	EC no.
1	4-tert-butylphenol	98-54-4	202-679-0
BCF		20	- 48
Species		Cyprinus carpio	
Method		OECD 305 C	
Source		ECHA	

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	ethyl-acetate	141-78-6	205-500-4
	log Pow		6.8
	Reference temperature		25 °C
	Source	ECHA	
2	butanone	78-93-3	201-159-0
	log Pow		0.3
	Reference temperature		40 °C
	Method	OECD 117	
	Source	ECHA	
3	propan-2-ol	67-63-0	200-661-7
	log Pow		0.05
	Reference temperature		25 °C
	Source	ECHA	
4	6,6'-DI-TERT-2,2'-METHYLENEDI-P-KRESOL (BPH)	119-47-1	204-327-1
	log Pow		6.25
	Reference temperature		20 °C
	Method	OECD 107	
	Source	ECHA	
5	4-tert-butylphenol	98-54-4	202-679-0
	log Pow		3
	Reference temperature		23 °C
	Method	OECD 117	
	Source	ECHA	

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The components of this product are not considered to be a PBT.
vPvB assessment	The components of this product are not considered to be a vPvB.

12.6 Other adverse effects

No data available.

12.7 Other information

Other information
Do not discharge into the drains or waters and do not store on public depositories.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

Class	3
Classification code	F1
Packing group	II
Hazard identification no.	33
UN number	UN1133
Proper shipping name	ADHESIVES
Special Provision 640	640D
Tunnel restriction code	D/E
Label	3
Environmentally hazardous substance mark	Symbol "fish and tree"

Trade name: Armaflex 520

Current version : 4.0.0, issued: 15.06.2018

Replaced version: 3.4.0, issued: 21.12.2017

Region: GB

14.2 Transport IMDG

Class	3
Packing group	II
UN number	UN1133
Proper shipping name	ADHESIVES
Technical name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
EmS	F-E, S-D
Label	3
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	3
Packing group	II
UN number	UN1133
Proper shipping name	Adhesives
Label	3

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations
Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annexe XVII. No 3, 40

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
1	cyclohexane	110-82-7	203-806-2	57

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category: E1, P5b

If the properties of the substance/product give rise to more than one classification, for the purposes of 2012/18/UE, the lowest qualifying quantities set out in Part 1 and Part 2 of Annex I shall apply.

Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control)

VOC content	80.5	%
VOC-value	676	g/l

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information
Further information

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The information is based on our current knowledge however it does not represent a guarantee of product properties nor does it create any legal obligation.

Trade name: Armaflex 520**Current version :** 4.0.0, issued: 15.06.2018**Replaced version:** 3.4.0, issued: 21.12.2017**Region:** GB

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

EUH066	Repeated exposure may cause skin dryness or cracking.
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

P The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene (EINECS No 200-753-7). When the substance is not classified as a carcinogen at least the precautionary statements (P102-)P260-P262- P301 + P310-P331 (Table 3.1) or the S-phrases (2-)23-24-62 (Table 3.2) shall apply. This note applies only to certain complex oil-derived substances in Part 3.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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