

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : 2990 HYPALON Adhesive  
Product code : 2990

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Adhesive

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Polymarine Ltd.  
Chester House  
The Dingle  
Colwyn Bay, Conwy  
LL29 7SN  
United Kingdom  
Telephone: +44 (0)1492 583322  
Fax: +44 (0)1492 531666  
E-mail: info@polymarine.com

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1827 69662 (Office hours only, English language only)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2	H225
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
STOT SE 3	H336
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS07

GHS09

Signal word (CLP) :

Danger

Contains :

Butanone; Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane;  
Cyclohexane; Acetone; Rosin

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Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 - Do not breathe dust, fume, gas, mist, spray, vapours. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear eye protection, protective clothing, protective gloves, face 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. P313 - Get medical advice/attention. P501 - Dispose of contents and container to in accordance with national regulations.

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Butanone	(CAS-No.) 78-93-3 (EC No.) 201-159-0 (EC index No.) 606-002-00-3 (REACH-no) 01-2119457290-43-XXXX	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	(EC No.) 921-024-6 (REACH-no) 01-2119475514-35-XXXX	10 - 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Cyclohexane	(CAS-No.) 110-82-7 (EC No.) 203-806-2 (EC index No.) 601-017-00-1 (REACH-no) 01-2119463273-41-XXXX	10 - 20	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Acetone	(CAS-No.) 67-64-1 (EC No.) 200-662-2 (EC index No.) 606-001-00-8 (REACH-no) 01-2119471330-49-XXXX	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Rosin	(CAS-No.) 8050-09-7 (EC No.) 232-475-7 (EC index No.) 650-015-00-7 (REACH-no) 01-2119480418-32-XXXX	1 - 5	Skin Sens. 1, H317

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n-hexane	(CAS-No.) 110-54-3 (EC No.) 203-777-6 (EC index No.) 601-037-00-0 (REACH-no) 01-2119480412-44-XXXX	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361f STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Magnesium oxide	(CAS-No.) 1309-48-4 (EC No.) 215-171-9	< 1	Not classified
Zinc oxide	(CAS-No.) 1314-13-2 (EC No.) 215-222-5 (EC index No.) 030-013-00-7 (REACH-no) 01-2119463881-32-XXXX	< 1	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove to fresh air, keep the patient warm and at rest. If symptoms develop, obtain medical attention.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. Obtain immediate medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause drowsiness or dizziness. Nausea.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Ingestion may cause discomfort. May cause stomach pain or vomiting if ingested.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Alcohol-resistant foam. Carbon dioxide. Dry chemical. For large fire: Water spray.
Unsuitable extinguishing media	: Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours.
Explosion hazard	: May form flammable/explosive vapour-air mixture.
Hazardous decomposition products in case of fire	: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

### 5.3. Advice for firefighters

Firefighting instructions	: Move containers from fire area if you can do it without risk. Cool closed containers exposed to fire with water spray. Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
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Protection during firefighting : As in any fire, wear self-contained breathing apparatus and full protective gear.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Remove ignition sources. Ventilate area. Avoid inhalation of vapours. Avoid contact with eyes, skin and clothing. Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required. See Section 8.  
Emergency procedures : Remove ignition sources. Use only non-sparking tools. Ventilate area. Avoid inhalation of vapours. Avoid contact with eyes, skin and clothing.

#### 6.2. Environmental precautions

Do not allow to enter drains or water courses. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Stop leak, if possible without risk. Dam up the liquid spill.  
Methods for cleaning up : Use non-sparking tools. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

#### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.  
Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Use only non-sparking tools. Take precautionary measures against static discharge. Use explosion-proof equipment. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Provide good ventilation in process area to prevent formation of vapour. Use only outdoors or in a well-ventilated area.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep only in original container. Store tightly closed in a dry, cool and well-ventilated place.  
Incompatible materials : Strong oxidising agents.  
Storage temperature : 5 – 25 °C

#### 7.3. Specific end use(s)

Adhesive.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

<b>Butanone (78-93-3)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Butanone
IOELV TWA (mg/m <sup>3</sup> )	600 mg/m <sup>3</sup>
IOELV TWA (ppm)	200 ppm
IOELV STEL (mg/m <sup>3</sup> )	900 mg/m <sup>3</sup>
IOELV STEL (ppm)	300 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Methyl ethyl ketone (MEK)
OEL (8 hours ref) (mg/m <sup>3</sup> )	600 mg/m <sup>3</sup>
OEL TWA [2]	200 ppm
OEL (15 min ref) (mg/m <sup>3</sup> )	900 mg/m <sup>3</sup>
OEL STEL [ppm]	300 ppm
Notes (IE)	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Butan-2-one (methyl ethyl ketone)
WEL TWA (mg/m <sup>3</sup> )	600 mg/m <sup>3</sup>
WEL TWA (ppm)	200 ppm
WEL STEL (mg/m <sup>3</sup> )	899 mg/m <sup>3</sup>
WEL STEL (ppm)	300 ppm
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>United Kingdom - Biological limit values</b>	
Local name	Butan-2-one (methyl ethyl ketone)
BMGV	70 µmol/l Parameter: butan-2-one - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Cyclohexane (110-82-7)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Cyclohexane
IOELV TWA (mg/m <sup>3</sup> )	700 mg/m <sup>3</sup>
IOELV TWA (ppm)	200 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC

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<b>Cyclohexane (110-82-7)</b>	
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Cyclohexane
OEL (8 hours ref) (mg/m <sup>3</sup> )	700 mg/m <sup>3</sup>
OEL TWA [2]	200 ppm
Notes (IE)	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Cyclohexane
WEL TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
WEL TWA (ppm)	100 ppm
WEL STEL (mg/m <sup>3</sup> )	1050 mg/m <sup>3</sup>
WEL STEL (ppm)	300 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Acetone (67-64-1)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Acetone
IOELV TWA (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
IOELV TWA (ppm)	500 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Acetone
OEL (8 hours ref) (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
OEL TWA [2]	500 ppm
Notes (IE)	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Acetone
WEL TWA (mg/m <sup>3</sup> )	1210 mg/m <sup>3</sup>
WEL TWA (ppm)	500 ppm
WEL STEL (mg/m <sup>3</sup> )	3620 mg/m <sup>3</sup>
WEL STEL (ppm)	1500 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Zinc oxide (1314-13-2)</b>	
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Zinc oxide, fume
OEL (8 hours ref) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> R (Respirable Fraction)
OEL (15 min ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Regulatory reference	Chemical Agents Code of Practice 2020

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<b>n-hexane (110-54-3)</b>	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	n-Hexane
IOELV TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
IOELV TWA (ppm)	20 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
<b>Ireland - Occupational Exposure Limits</b>	
Local name	n-Hexane
OEL (8 hours ref) (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
OEL TWA [2]	20 ppm
Notes (IE)	IOELV (Indicative Occupational Exposure Limit Values), Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	n-Hexane
WEL TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
WEL TWA (ppm)	20 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

<b>Magnesium oxide (1309-48-4)</b>	
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Magnesium oxide
OEL (8 hours ref) (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> respirable dust 5 mg/m <sup>3</sup> fume 10 mg/m <sup>3</sup> total inhalable dust
OEL (15 min ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> fume
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Magnesium oxide
WEL TWA (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (as Mg) fume and respirable dust 10 mg/m <sup>3</sup> (as Mg) inhalable dust fume
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

<b>Rosin (8050-09-7)</b>	
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Rosin-based solder flux fume
WEL TWA (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
WEL STEL (mg/m <sup>3</sup> )	0.15 mg/m <sup>3</sup>
Remark (WEL)	Sen (Capable of causing occupational asthma. See paragraphs 53–56)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

### 8.1.2. Recommended monitoring procedures

No additional information available

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### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

<b>Butanone (78-93-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	1161 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	600 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	31 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	106 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	412 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	55.8 mg/l
PNEC aqua (marine water)	55.8 mg/l
PNEC aqua (intermittent, freshwater)	55.8 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	284.74 mg/kg dwt
PNEC sediment (marine water)	284.74 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	22.5 mg/kg dwt
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	1000 mg/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	709 mg/l

<b>Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, &lt;5% n-hexane</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	773 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2035 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	699 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	608 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	699 mg/kg bodyweight/day

<b>Cyclohexane (110-82-7)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	1400 mg/m <sup>3</sup>
Acute - local effects, inhalation	1400 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	2016 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	700 mg/m <sup>3</sup>
Long-term - local effects, inhalation	700 mg/m <sup>3</sup>



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<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	412 mg/m <sup>3</sup>
Acute - local effects, inhalation	412 mg/m <sup>3</sup>
Long-term - systemic effects, oral	59.4 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	206 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1186 mg/kg bodyweight/day
Long-term - local effects, inhalation	206 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.207 mg/l
PNEC aqua (marine water)	0.207 mg/l
PNEC aqua (intermittent, freshwater)	0.207 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	16.68 mg/kg dwt
PNEC sediment (marine water)	16.68 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	3.38 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	3.24 mg/l

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Provide good ventilation in process area to prevent formation of vapour. If user operations generate vapour or dust, use process enclosures, local exhaust ventilation or other engineering controls to minimise worker exposure. Ensure exposure is below occupational exposure limits (where available). Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety goggles. Standard EN 166 - Personal eye-protection.

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Long-sleeved protective clothing

##### Hand protection:

Wear protective gloves if skin contact is possible. Standard EN 374 - Protective gloves against chemicals. Recommended: Nitrile rubber gloves. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough.

#### 8.2.2.3. Respiratory protection

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### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Type ABEK-P3 filter is recommended. Standard EN 14387 - Gas filter(s), combined filter(s) and full face mask - EN 136.

### 8.2.2.4. Thermal hazards

#### Thermal hazard protection:

Not required for normal conditions of use.

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Assure that emissions are compliant with all applicable air pollution control regulations. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Various colours.
Odour	: Acetone.
Odour threshold	: No data available
pH	: No data available
pH solution	: 7 – 8
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 56 °C
Flash point	: -22 °C (closed cup)
Auto-ignition temperature	: 200 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.86 (20°C), (Water = 1)
Solubility	: In water, material is partially soluble.
Log Pow	: No data available
Viscosity, kinematic	: > 20.5 mm <sup>2</sup> /s
Viscosity, dynamic	: No data available
Explosive properties	: May form flammable/explosive vapour-air mixture.
Oxidising properties	: Not oxidising.
Explosive limits	: 0.6 – 13 vol %

### 9.2. Other information

VOC content : ≤ 700 g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under recommended handling and storage conditions (see section 7). Highly flammable liquid and vapour.

### 10.2. Chemical stability

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

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### 10.3. Possibility of hazardous reactions

May form flammable/explosive vapour-air mixture.

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5. Incompatible materials

Strong oxidising agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Additional information	: Based on available data, the classification criteria are not met

#### Butanone (78-93-3)

LD50 oral, rat	2193 mg/kg bw/day (Read-across, CAS 78-92-2)
LD50 dermal, rabbit	> 10 ml/kg

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

LC50 inhalation, rat (mg/l)	> 25.2 mg/l - 4 Hours
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#### Cyclohexane (110-82-7)

LD50 oral, rat	> 5000 mg/kg bodyweight (OECD 401 method)
LD50 dermal, rabbit	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 inhalation, rat (mg/l)	> 32.88 mg/l (OECD 403 method)

#### Acetone (67-64-1)

LD50 oral, rat	5800 mg/kg bodyweight
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#### Zinc oxide (1314-13-2)

LD50 oral, rat	> 2000 mg/kg bodyweight
LD50 dermal, rat	> 2000 mg/kg bodyweight
LC50 inhalation, rat (mg/l)	> 5.7 mg/l - 4 Hours

#### n-hexane (110-54-3)

LD50 oral, rat	16000 mg/kg bodyweight
LC50 inhalation, rat (ppm)	> 5000 ppm - 24 Hours

#### Rosin (8050-09-7)

LD50 oral, rat	> 2000 mg/kg bodyweight
LD50 dermal, rabbit	> 2000 mg/kg bodyweight

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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause drowsiness or dizziness.

### Butanone (78-93-3)

STOT-single exposure	May cause drowsiness or dizziness.
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### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

STOT-single exposure	May cause drowsiness or dizziness.
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### Cyclohexane (110-82-7)

STOT-single exposure	May cause drowsiness or dizziness.
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### Acetone (67-64-1)

STOT-single exposure	May cause drowsiness or dizziness.
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### n-hexane (110-54-3)

STOT-single exposure	May cause drowsiness or dizziness.
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STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

### n-hexane (110-54-3)

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

### 2990 HYPALON Adhesive

Viscosity, kinematic	> 20.5 mm <sup>2</sup> /s
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Potential adverse human health effects and symptoms	: Causes serious eye irritation, Causes skin irritation, May cause an allergic skin reaction, May cause drowsiness or dizziness, Nausea, Ingestion may cause discomfort, May cause stomach pain or vomiting if ingested
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## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

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<b>Butanone (78-93-3)</b>	
LC50 fish	2993 mg/l - 96 Hours (Pimephales promelas)
EC50 Daphnia	308 mg/l - 48 Hours (Daphnia magna)
ErC50 algae	1972 mg/l - 96 Hours (Pseudokirchneriella subcapitata)
NOEC chronic algae	1240 mg/l - 96 Hours (Pseudokirchneriella subcapitata)

<b>Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, &lt;5% n-hexane</b>	
LC50 fish	11.4 mg/l - 96 Hours (Oncorhynchus mykiss, WAF)
EC50 Daphnia	3 mg/l - 48 Hours (Daphnia magna, WAF)
ErC50 algae	30 mg/l - 72 Hours (Pseudokirchneriella subcapitata, WAF)
NOEC chronic fish	2.045 mg/l - 28 days (Oncorhynchus mykiss, QSAR)
NOEC chronic algae	3 mg/l - 72 Hours (Pseudokirchneriella subcapitata, WAF, Growth rate)

<b>Cyclohexane (110-82-7)</b>	
LC50 fish	4.53 mg/l - 96 Hours - Pimephales promelas (OECD 203 method)
EC50 Daphnia	0.9 mg/l - 48 Hours - Daphnia magna (OECD 202 method)
EC50 72h - Algae [1]	3.428 mg/l - 72 Hours, Biomass - Pseudokirchneriella subcapitata (OECD 201 method)
EC50 72h - Algae [2]	> 4.425 mg/l - 72 Hours, Growth rate - Pseudokirchneriella subcapitata (OECD 201 method)
NOEC chronic algae	0.952 mg/l - 72 Hours, Growth rate - Pseudokirchneriella subcapitata (OECD 201 method)

<b>Acetone (67-64-1)</b>	
LC50 fish	5540 mg/l - 96 Hours (Oncorhynchus mykiss)
LC50 other aquatic organisms	8800 mg/l - 48 Hours (Daphnia pulex)
NOEC chronic crustacea	2212 mg/l -28 days (Daphnia pulex, reproduction)
NOEC chronic algae	530 mg/l - 8 days (Microcystis aeruginosa, Biomass)

<b>Zinc oxide (1314-13-2)</b>	
LC50 fish	0.169 – 0.78 mg/l
EC50 Daphnia	0.147 – 0.53 mg/l (Ceriodaphnia dubia)
NOEC chronic crustacea	0.014 - 0.4 mg/l (freshwater), 0.0056 - 0.9 mg/l (marine water)
NOEC chronic algae	0.019 mg/l (freshwater), 0.0078 - 0.67 mg/l (marine water)
IC50, algae, acute	0.136 mg/l (72 Hours, Selenastrum capricornutum, Growth rate)

<b>n-hexane (110-54-3)</b>	
LC50 fish	12.51 mg/l - 96 Hours (Growth, QSAR)
EC50 Daphnia	21.85 mg/l - 48 Hours (Mobility, QSAR)
ErC50 algae	9.285 mg/l - 48 Hours (QSAR)
NOEC chronic fish	2.8 mg/l - 28 days (Growth, QSAR)
NOEC chronic crustacea	4.888 mg/l - 28 days (reproduction, QSAR)
NOEC chronic algae	2.077 mg/l - 48 Hours (Growth rate, QSAR)

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<b>Rosin (8050-09-7)</b>	
LC50 fish	1.7 mg/l - 96 Hours
EC50 Daphnia	1.6 mg/l - 48 Hours
ErC50 algae	39.6 mg/l - 72 Hours (Pseudokirchneriella subcapitata)
LL50	< 10 mg/l (96 Hours, Danio rerio, WAF)
EL50	911 mg/l (48 Hours, Daphnia magna, WAF)
NOELr	750 mg/l (48 Hours, Daphnia magna, WAF)

### 12.2. Persistence and degradability

<b>2990 HYPALON Adhesive</b>	
Persistence and degradability	No information available.

<b>Butanone (78-93-3)</b>	
Persistence and degradability	Readily biodegradable.

<b>Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, &lt;5% n-hexane</b>	
Persistence and degradability	Readily biodegradable.

<b>Cyclohexane (110-82-7)</b>	
Persistence and degradability	Readily biodegradable.

<b>Acetone (67-64-1)</b>	
Persistence and degradability	Readily biodegradable.
Biodegradation	90 % -28 days (OECD 301B method)

<b>Zinc oxide (1314-13-2)</b>	
Persistence and degradability	Not relevant for inorganic substances.

<b>Rosin (8050-09-7)</b>	
Persistence and degradability	Readily biodegradable.

### 12.3. Bioaccumulative potential

<b>2990 HYPALON Adhesive</b>	
Bioaccumulative potential	No information available.

<b>Butanone (78-93-3)</b>	
Log Pow	0.3 (40°C)

<b>Cyclohexane (110-82-7)</b>	
BCF - Fish [1]	167 l/kg (QSAR)
Log Pow	3.44 (20°C)

<b>Acetone (67-64-1)</b>	
Log Pow	-0.23 (calculated value)

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Bioaccumulative potential	Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
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### Zinc oxide (1314-13-2)

Bioaccumulative potential	Not relevant for inorganic substances.
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### n-hexane (110-54-3)

BCF - Fish [1]	501 (QSAR)
Log Pow	4 (20 °C)

### Rosin (8050-09-7)

Log Pow	> 3 - <= 6.2 (pH > 6 - < 7)
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## 12.4. Mobility in soil

### 2990 HYPALON Adhesive

Ecology - soil	No information available.
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### Butanone (78-93-3)

Ecology - soil	Miscible with water.
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### Cyclohexane (110-82-7)

Log Koc	2.89 (calculated value)
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### Acetone (67-64-1)

Mobility in soil	Mobile
Ecology - soil	Miscible with water.

### n-hexane (110-54-3)

Log Koc	3.34 (QSAR)
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### Rosin (8050-09-7)

Log Koc	0.8759 – 5.37 (QSAR)
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## 12.5. Results of PBT and vPvB assessment

### 2990 HYPALON Adhesive

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## 12.6. Other adverse effects

No additional information available

# 2990 HYPALON Adhesive

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal. The correct waste code must be determined by the producer of the waste, based on how the waste has been produced.
- Additional information : Handle empty containers with care because residual vapours are flammable.
- Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

#### 14.1 UN number

- UN-No. (ADR) : UN 1133
- UN-No. (IMDG) : UN 1133
- UN-No. (IATA) : UN 1133

#### 14.2. UN proper shipping name

- Proper Shipping Name : ADHESIVES
- Proper Shipping Name (IMDG) : ADHESIVES
- Proper Shipping Name (IATA) : Adhesives
- Transport document description (ADR) : UN 1133 ADHESIVES, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS
- Transport document description (IMDG) : UN 1133 ADHESIVES, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
- Transport document description (IATA) : UN 1133 Adhesives, 3, II, ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

##### ADR

- Transport hazard class(es) (ADR) : 3
- Hazard labels : 3



##### IMDG

- Transport hazard class(es) (IMDG) : 3
- Danger labels (IMDG) : 3



##### IATA

- Transport hazard class(es) (IATA) : 3
- Danger labels (IATA) : 3





# 2990 HYPALON Adhesive

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 14.4. Packing group

Packing group : II  
Packing group (IMDG) : II  
Packing group (IATA) : II

### 14.5. Environmental hazards

Dangerous for the environment : Yes  
Marine pollutant : Yes  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Tunnel restriction code (ADR) : D/E

#### Transport by sea

No data available

#### Air transport

No data available

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Authorisations and/or restrictions on use (Annex XVII):		
Reference code	Applicable on	Entry title or description
3.	2990 HYPALON Adhesive ; n-hexane ; Butanone ; Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane ; Cyclohexane ; Acetone	Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008
3(a)	2990 HYPALON Adhesive ; n-hexane ; Butanone ; Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane ; Cyclohexane ; Acetone	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	2990 HYPALON Adhesive ; n-hexane ; Butanone ; Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane ; Cyclohexane ; Acetone	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	2990 HYPALON Adhesive ; n-hexane ; Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane ; Cyclohexane	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
40.	2990 HYPALON Adhesive ; n-hexane ; Butanone ; Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane ; Cyclohexane ; Acetone	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.
57.	Cyclohexane	Cyclohexane

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content :  $\leq 700$  g/l

### 15.1.2. National regulations

No additional information available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	BCF (Bioconcentration factor)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No Effect Level)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IOELV (Indicative Occupational Exposure Limit)
	Koc (Soil adsorption coefficient)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	OECD (Organisation for Economic Co-operation and Development)
	OEL (Occupational exposure limit)
	NOEC (No Observed Effect Concentration)
	PBT (Persistent, Bioaccumulative and Toxic)
	PNEC (Predicted No Effect Concentration)
	QSAR (Quantitative Structure-Activity Relationship)
	REACH (Registration, Evaluation and Authorisation of CHemicals)
	SCOEL (Scientific Committee on Occupational Exposure Limits)
	STEL (Short Term Exposure Limit)
	STP (Sewage treatment plant)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	UVCB (Unknown or Variable composition, Complex reaction products or Biological materials)

# 2990 HYPALON Adhesive

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	vPvB (very Persistent and very Bioaccumulative)
	WAF (Water Accommodated Fraction)

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : Classification procedure according to Regulation (EC) No. 1272/2008 [CLP]: Physical hazards: On basis of test data. Health hazards: Calculation method. Environmental hazards: Calculation method.

Full text of H- and EUH-statements:	
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.