



SAFETY DATA SHEET

500/P101 - HIGH PERFORMANCE POLYURETHANE TOPCOAT COLOURS - ACTIVATOR

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name	500/P101 - HIGH PERFORMANCE POLYURETHANE TOPCOAT COLOURS - ACTIVATOR
Product number	500/P101/ ALL COLOURS ACTIVATOR
UFI	UFI: 6GCP-32GD-000X-6P65

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

Identified uses	HARDENER FOR TWO COMPONENT MARINE TOPCOAT Restricted to professional users.
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1.3. Details of the supplier of the safety data sheet

Supplier	TEAL & MACKRILL LIMITED Lockwood Street HULL UK HU2 0HN +441482320194 (T) +441482219266 (F) info@teamac.co.uk	TEAL AND MACKRILL EU B.V. Zandvoortstaat 69 1976 BN IJMUIDEN THE NETHERLANDS +441482320194 (T) +441482219266 (F) info@teamac.co.uk
Contact person	Technical Department -, as above, 08.30 - 16.30 hrs Mon - Thurs, 08.30 - 15.00 hrs Fri	
Manufacturer	TEAL & MACKRILL LIMITED LOCKWOOD STREET HULL HU2 0HN +44(0)1482 320194(T) +44(0)1482 219266(F) info@teamac.co.uk	

1.4. Emergency telephone number

Emergency telephone	+44 (0) 1482 320194 Teamac (08.30 - 16.30 hrs Mon - Thurs, 08.30 - 15.00 hrs Fri)
SDS No.	20987

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards	Not Classified

2.2. Label elements

500/P101 - HIGH PERFORMANCE POLYURETHANE TOPCOAT COLOURS - ACTIVATOR**Hazard pictograms****Signal word**

Warning

Hazard statements

H226 Flammable liquid and vapour.
 H332 Harmful if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P102 Keep out of reach of children.
 P101 If medical advice is needed, have product container or label at hand.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing vapour/ spray.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P501 Dispose of contents/ container in accordance with national regulations.

Supplemental label information

EUH204 Contains isocyanates. May produce an allergic reaction.
 RCH002a Restricted to professional users.

Contains

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER, XYLENE ISOMER MIXTURE, HEXAMETHYLENE-DI-ISOCYANATE

Supplementary precautionary statements

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P370+P378 In case of fire: Use alcohol resistant foam, carbon dioxide or dry powder to extinguish.
 P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER	60-100%
CAS number: 28182-81-2	
Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H332	Xn;R20. Xi;R37. R43.
Skin Sens. 1 - H317	
STOT SE 3 - H335	

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2-METHOXY-1-METHYLETHYL ACETATE 10-15%		
CAS number: 108-65-6	EC number: 203-603-9	REACH registration number: 01-2119475791-29-xxxx
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336	Classification (67/548/EEC or 1999/45/EC) R10	
XYLENE ISOMER MIXTURE 10-15%		
CAS number: 1330-20-7	EC number: 215-535-7	REACH registration number: 01-2119488216-32-0000
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335 STOT RE 2 - H373 Asp. Tox. 1 - H304 Aquatic Chronic 3 - H412	Classification (67/548/EEC or 1999/45/EC) R10 Xn;R20/21 Xi;R38	
HEXAMETHYLENE-DI-ISOCYANATE <0.38%		
CAS number: 822-06-0	EC number: 212-485-8	REACH registration number: 01-2119457571-37-0000
Classification Acute Tox. 4 - H302 Acute Tox. 1 - H330 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

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Ingestion	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin contact	It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness. During application and drying, solvent vapours will be emitted. Vapours in high concentrations are narcotic.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin. Discoloration of the skin.
Eye contact	May cause temporary eye irritation.

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

Notes for the doctor	Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard. This product is toxic.
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Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated. Avoid inhalation of dust and vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Provide adequate ventilation. Absorb small quantities with paper towels and evaporate in a safe place. Once evaporation is complete, place paper in a suitable waste disposal container and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In use may form flammable/explosive vapour-air mixture. Vapours may accumulate on the floor and in low-lying areas. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Eliminate all sources of ignition. Take precautionary measures against static discharges. Earth container and transfer equipment to eliminate sparks from static electricity. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.
Storage class	Flammable liquid storage.

7.3. Specific end use(s)

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

8.1. Control parameters

Occupational exposure limits

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³

Short-term exposure limit (15-minute): WEL 0.07 mg/m³

as NCO

2-METHOXY-1-METHYLETHYL ACETATE

Long-term exposure limit (8-hour TWA): WEL 50 ppm 274 mg/m³

Short-term exposure limit (15-minute): WEL 100 ppm 548 mg/m³

Sk

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Long-term exposure limit (8-hour TWA): WEL 50 ppm 220 mg/m³

Short-term exposure limit (15-minute): WEL 100 ppm 441 mg/m³

Sk

HEXAMETHYLENE-DI-ISOCYANATE

Long-term exposure limit (8-hour TWA): WEL 0,02 mg/m³

Sen

Short-term exposure limit (15-minute): WEL 0,07 mg/m³

as NCO

WEL = Workplace Exposure Limit.

Sen = Capable of causing occupational asthma.

Sk = Can be absorbed through the skin.

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2-METHOXY-1-METHYLETHYL ACETATE (CAS: 108-65-6)

DNEL	Workers - Inhalation; Long term systemic effects: 275 mg/m ³
	Workers - Dermal; Long term systemic effects: 796 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 33 mg/m ³
	Consumer - Dermal; Long term systemic effects: 320 mg/kg/day
	Consumer - Oral; Long term systemic effects: 36 mg/kg/day

PNEC	- Sediment; 3.29 mg/kg
	- Sediment (Marinewater); 0.329 mg/kg
	- Fresh water; 0.635 mg/l
	- STP; 100 mg/l
	- Intermittent release; 6.35 mg/l
	- marine water; 0.0635 mg/l
- Soil; 0.29 mg/kg	

XYLENE ISOMER MIXTURE (CAS: 1330-20-7)

DNEL	Consumer - Oral; Long term systemic effects: 12.5 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 65.3 mg/m ³
	Consumer - Inhalation; Short term systemic effects: 260 mg/m ³
	Consumer - Inhalation; Short term local effects: 260 mg/m ³
	Consumer - Dermal; Long term systemic effects: 125 mg/kg/day
	Workers - Inhalation; Short term systemic effects: 442 mg/m ³
	Workers - Inhalation; Long term systemic effects: 221 mg/m ³
	Workers - Inhalation; Long term local effects: 221 mg/kg/day
Workers - Inhalation; Short term local effects: 442 mg/m ³	

PNEC	- Fresh water; 0.327 mg/l
	- marine water; 0.327 mg/l
	- Intermittent release; 0.327 mg/l
	- STP; 6.58 mg/l
	- Sediment (Freshwater); 12.46 mg/kg
	- Sediment (Marinewater); 12.46 mg/kg
- Soil; 2.31 mg/kg	

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

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Hand protection	To protect hands from chemicals, gloves should comply with European Standards EN388 and 374. As a general principle, exposure should be managed by means other than the provision of protective gloves. Manufacturers' performance data suggest that the optimum glove for use should be: Wear protective gloves made of the following material: Viton rubber (fluoro rubber). Thickness: ≥ 0.7 mm or Polyvinyl alcohol (PVA). Thickness: $\geq 0.2 - 0.3$ mm or Polyethylene. Thickness: ≥ 0.062 mm Permeation breakthrough time according to EN374 - class: (1-6) e.g. minimum 480 mins. Caution: The performance of gloves under actual working conditions can be significantly affected by many factors and the information provided according to EN374 may not accord with what is achieved in practice. We recommend that expert professional advice is sought that takes into account of the work processes and working environment applicable for each task where gloves are to be worn.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. In case of inadequate ventilation use suitable respirator. It is recommended to use respiratory equipment with combination filter, type A2/P2.
Environmental exposure controls	Keep container tightly sealed when not in use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Yellowish
Odour	Characteristic. Organic solvents.
Odour threshold	Not determined.
pH	Technically not feasible.
Melting point	Not determined.
Initial boiling point and range	145°C @ 760 mm Hg
Flash point	38 approx. °C Closed cup.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	: Xylene = 1% - 1-methoxypropylacetate-2= 1.5%
Other flammability	Not determined.
Vapour pressure	Xylene ca. 7-9 @ 20°C Hexamethylene-1,6-diisocyanate 0.014 @ 25°C Resin <0.001 @ 20°C (Vapour Pressure: balance/OECD No. 104) mbar @ °C
Vapour density	heavier than air

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Relative density	1.06 - 1.08 @ @ 20 C°C
Solubility(ies)	Insoluble in water Hardens in contact with water.
Partition coefficient	Not determined.
Auto-ignition temperature	460 (DIN 51794)°C
Decomposition Temperature	Not determined.
Viscosity	ca. 225 mPa.s @ 23 C DIN EN ISO 3219/A.3 - ca. 59 s 4mm flow cup to DIN 53211 @ °C Kinematic viscosity > 20.5 mm ² /s.
Explosive properties	Not determined.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not determined.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react strongly with the product: Oxidising agents.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.

10.5. Incompatible materials

Materials to avoid Oxidising materials. Acids - oxidising.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No indication of mutagenic effects. Aromatic hydrocarbons, such as xylene, irritate the skin and mucous membranes and are narcotic if inhaled in high concentrations.

Acute toxicity - dermal

ATE dermal (mg/kg) 8,800.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Acute Tox. 4 - H332 Harmful if inhaled.

ATE inhalation (vapours mg/l) 11.45

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ATE inhalation (dusts/mists mg/l)	2.01
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Causes skin irritation.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Irritation of eyes is assumed.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	May cause skin sensitisation or allergic reactions in sensitive individuals.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	No evidence of carcinogenicity in animal studies.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	STOT SE 3 - H335 May cause respiratory irritation.
Target organs	Respiratory system, lungs
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Prolonged or repeated exposure may cause the following adverse effects: High concentrations may cause severe lung damage.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness. During application and drying, solvent vapours will be emitted. Vapours in high concentrations are narcotic.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin. Discoloration of the skin.
Eye contact	May cause temporary eye irritation.

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Acute and chronic health hazards	Over exposure, especially during spraying without the necessary precautions, entails risk of concentration- dependant irritating effects on eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficulty breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations below UK Workplace Exposure Limits (WEL). Prolonged contact with skin may have tanning and irritating effects.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	Respiratory system, lungs
Medical considerations	Skin disorders and allergies.

Toxicological information on ingredients.

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,100.0

Species Rat

ATE oral (mg/kg) 5,100.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,100.0

Species Rabbit

ATE dermal (mg/kg) 2,100.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 0.554

Species Rat

ATE inhalation (dusts/mists mg/l) 1.5

Skin corrosion/irritation

Animal data Slightly irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Inhalation Irritating to respiratory system.

2-METHOXY-1-METHYLETHYL ACETATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 8,532.0

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Species	Rat
ATE oral (mg/kg)	8,532.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rabbit
ATE dermal (mg/kg)	5,000.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	35.7
Species	Rat
ATE inhalation (vapours mg/l)	35.7
<u>Skin corrosion/irritation</u>	
Animal data	Not irritating.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Emits vapours if heated. Vapours/aerosol spray may irritate the respiratory system.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Emits vapours, especially if heated.

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<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,523.0
Species	Rat
ATE oral (mg/kg)	3,523.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	12,126.0
Species	Rabbit
ATE dermal (mg/kg)	1,100.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ gases ppmV)	6,700.0
Species	Rat

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Acute toxicity inhalation 27.124
(LC₅₀ vapours mg/l)

Species Rat

Acute toxicity inhalation 1.5
(LC₅₀ dust/mist mg/l)

Species Rat

ATE inhalation (vapours 11.0
mg/l)

Serious eye damage/irritation

Serious eye Severely irritating to skin. Irritation of eyes is assumed. No testing is needed.
damage/irritation

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - This substance has no evidence of toxicity to reproduction.
fertility

Aspiration hazard

Aspiration hazard Kinematic viscosity <= 20.5 mm²/s.

Inhalation Harmful by inhalation.

Ingestion Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin contact Harmful in contact with skin.

Target organs Central nervous system Liver

HEXAMETHYLENE-DI-ISOCYANATE**Acute toxicity - oral**

ATE oral (mg/kg) 500.0

Acute toxicity - inhalation

ATE inhalation (vapours 0.05
mg/l)

Respiratory sensitisation

Respiratory sensitisation Guinea pig: There is evidence that the material can lead to respiratory hypersensitivity.

Skin sensitisation

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Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Ames test: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No evidence of carcinogenicity in animal studies
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Fertility: - Dose level: 0 - 0.005 - 0.050 - 0.300 ppm, Inhalation, Rat P This substance has no evidence of toxicity to reproduction.
Reproductive toxicity - development	Teratogenicity: - Dose level:: 0 - 0.005 - 0.050 - 0.300 ppm, Inhalation, Rat This substance has no evidence of toxicity to reproduction.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Respiratory irritant effects that impair function with symptoms such as cough, pain, choking, and breathing difficulties.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>Inhalation</u>	
Inhalation	May cause sensitisation by inhalation.
<u>Skin contact</u>	
Skin contact	May cause sensitisation by skin contact.
<u>Acute and chronic health hazards</u>	
Acute and chronic health hazards	The product contains small quantities of isocyanate. May cause respiratory allergy. May cause respiratory system irritation.

SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

2-METHOXY-1-METHYLETHYL ACETATE

Ecotoxicity The product is not expected to be hazardous to the environment.

XYLENE ISOMER MIXTURE

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

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

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: LC(0) =8.8. LC(100)=25.0 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 100-1000 mg/l, Daphnia magna

Ecological information on ingredients.

500/P101 - HIGH PERFORMANCE POLYURETHANE TOPCOAT COLOURS - ACTIVATOR

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , > 96 hours: 100 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , > 48 hours: 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , > 72 hours: 100 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	EC ₅₀ , > 3 hours: 100 mg/l, Activated sludge

2-METHOXY-1-METHYLETHYL ACETATE

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , > 96 hours: 134 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: > 500 mg/l, Daphnia magna EC ₅₀ , 21 days: > 100 mg/l, Daphnia magna NOEC, 21 days: > 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , > 72 hours: 1000 mg/l, Scenedesmus subspicatus NOEC, 72 hours: > 1000 mg/l, Selenastrum capricornutum

XYLENE ISOMER MIXTURE

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 2.6 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 3.62 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: 3.2 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

Persistence and degradability	The product is not readily biodegradable.
Biodegradation	Degradation (%) - 1%: 28 days

2-METHOXY-1-METHYLETHYL ACETATE

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation 100% (DOC): 28 days

XYLENE ISOMER MIXTURE

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Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

2-METHOXY-1-METHYLETHYL ACETATE

Partition coefficient log Kow: 1.2 log Pow: 0.43

XYLENE ISOMER MIXTURE

Partition coefficient log Kow: 3.12 - 3.2

12.4. Mobility in soil

Mobility Volatile liquid. The product contains organic solvents which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

2-METHOXY-1-METHYLETHYL ACETATE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

XYLENE ISOMER MIXTURE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.

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Waste class When this coating, in its liquid state, as supplied, becomes a waste, it is categorised as hazardous waste, with code 08 01 11* (SOLVENT BASED LIQUID WASTE). Part-used containers, not drained and/or rigorously scraped out and containing dried residues of the supplied coating, are categorised as hazardous waste, with code 08 01 11* (SOLVENT BASED LIQUID WASTE). Used containers, drained and/or rigorously scraped out and containing dry residues of the supplied coating, are categorised as non-hazardous waste, with code 15 01 02 (plastic packaging) or 15 01 04 (metal packaging). If mixed with other wastes, the above waste code may not be applicable. Neutralised empty packages, are categorised as non-hazardous waste, with code 15 01 02(plastic packaging) or 15 01 04 (metal packaging)

SECTION 14: Transport information

General This product is packed in accordance with the Limited Quantity Provisions of CDGCPL2, ADR and IMDG.

14.1. UN number

UN No. (ADR/RID) 1263

UN No. (IMDG) 1263

UN No. (ICAO) 1263

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PAINT RELATED MATERIAL, FLASH POINT 38 C

Proper shipping name (IMDG) PAINT RELATED MATERIAL, FLASH POINT 38 C

Proper shipping name (ICAO) PAINT RELATED MATERIAL, FLASH POINT 38 C

14.3. Transport hazard class(es)

ADR/RID class 1263

IMDG class 1263

ICAO class/division 1263

14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS F-E, S-E

Tunnel restriction code (D/E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

500/P101 - HIGH PERFORMANCE POLYURETHANE TOPCOAT COLOURS - ACTIVATOR**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU legislation**

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) (as amended).
 Commission Regulation (EU) No 2015/830 of 28 May 2015.
 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 (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information**Abbreviations and acronyms used in the safety data sheet**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 IATA: International Air Transport Association.
 ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
 IMDG: International Maritime Dangerous Goods.
 CAS: Chemical Abstracts Service.
 ATE: Acute Toxicity Estimate.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 EC₅₀: 50% of maximal Effective Concentration.
 PBT: Persistent, Bioaccumulative and Toxic substance.
 vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)
 Asp. Tox. = Aspiration hazard
 Eye Dam. = Serious eye damage
 Eye Irrit. = Eye irritation
 Flam. Liq. = Flammable liquid
 Resp. Sens. = Respiratory sensitisation
 Skin Corr. = Skin corrosion
 Skin Irrit. = Skin irritation
 Skin Sens. = Skin sensitisation
 STOT RE = Specific target organ toxicity-repeated exposure
 STOT SE = Specific target organ toxicity-single exposure

Revision comments

Issued in new format for Reach compliance in accordance with EC 1272/2008 Issued in accordance with Annex II to REACH, as amended by Commission Regulation (EU) No. 2015/830 Professional use. Unique Formula Identifier (UFI) added

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Revision

7.5

Supersedes date

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SDS number	20987
SDS status	Approved.
Hazard statements in full	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H330 Fatal if inhaled. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H373 May cause damage to organs through prolonged or repeated exposure. H373 May cause damage to organs (Respiratory system, lungs) through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Signature	Initials _____

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 process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.