

## 1. IDENTIFICATION OF THE SUBSTRATE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

Trade name/designation: Alumasc SB Bitumen Primer.

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

Relevant identified uses: Adhesive.

### 1.3 Manufacturer/Supplier

Supplier:  
Alumasc Building Products Ltd  
White House Works, Bold Road, Sutton, St Helens, Merseyside, United Kingdom, WA9 4JG  
Tel: +44 (0)1744 648400  
e-mail: [technical@alumascroofing.com](mailto:technical@alumascroofing.com)

### 1.4 Manufacturer/Supplier

Emergency telephone: 01744 648 400 - (Mon-Thurs – 08.30-17.00 Fri – 08.30-16.00)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Classified as Dangerous Goods for transport purposes.**

#### Classification according to Regulation (EC) No. 1272/2008 [CLP][1]:

H226 - Flammable Liquid Category 3, H312 - Acute Toxicity (Dermal) Category 4, H332 - Acute Toxicity (Inhalation) Category 4, H315 - Skin Corrosion/Irritation Category 2, H412 - Chronic Aquatic Hazard Category 3.

#### Legend:

1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI.

### 2.2 Labelling according to Regulation (EU) 1272/2008

Hazard pictures:



Signal word:

Warning.

Hazard statements:

H226: Flammable liquid and vapour.  
H312: Harmful in contact with skin.  
H332: Harmful if inhaled.  
H315: Causes skin irritation.  
H412: Harmful to aquatic life with long lasting effects.

Supplementary statements:

EUH208: Contains tall oil/polyethylenepolyamides. May produce an allergic reaction.

Precautionary statements - prevention:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233: Keep container tightly closed.  
P271: Use in a well-ventilated area.

Precautionary statements - response:

P321: Specific treatment (see advice on this label).  
P370+P378: In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish.  
P312: Call a POISON CENTRE/doctor/physician/first aider if you feel unwell.

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

Precautionary statements - disposal: P501: Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

### 2.3 Other hazards

#### Xylene:

Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply).

## 3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

### 3.1 Substances

High-bond solvent based primer.

### 3.2 Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP]
1.1330-20-7 2.215-535-7 3.601-022-00-9 4.01-2119488216-32-XXXX	50-60	Xylene *	Flammable Liquid Category 3, Skin Corrosion/Irritation Category 2, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4; H226, H315, H312, H332 <sup>[2]</sup>
1.64742-93-4 2.265-196-4 3.Not Available 4.01-2119498270-36-XXXX	30-40	Bitumen (Blown)	Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (narcotic effects); H351, H336 <sup>[1]</sup>
1.68910-93-0 2.272-756-1 3.Not Available 4.01-2119492544-31-XXXX	0-0.5	Tall Oil/ Polyethylenepolyamides	Skin Sensitizer Category 1, Serious Eye Damage Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Chronic Aquatic Hazard Category 1; H317, H318, H302, H315, H410 <sup>[1]</sup>
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; *EU IOELVs available.		

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

Eye contact: If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin contact: If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.
- Immediately drench burn area in cold running water.
- If hot bitumen adheres to the skin, DO NOT attempt to remove it (it acts as a sterile dressing).
- For burns to the head and neck and trunk, apply cold wet towels to the burn area, and change frequently to maintain cooling.
- Cooling should be maintained for no longer than thirty minutes.
- When hot bitumen completely encircles a limb, it may have a tourniquet effect and should be split as it cools.
- Transport to hospital or doctor.

- Inhalation:** If fumes or combustion products are inhaled remove from contaminated area.  
Lay patient down. Keep warm and rested.  
Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.  
Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.  
Perform CPR if necessary.  
Transport to hospital, or doctor, without delay.
- Ingestion:** If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.  
If swallowed do NOT induce vomiting.  
If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.  
Observe the patient carefully.  
Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.  
Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.  
Seek medical advice. Avoid giving milk or oils. Avoid giving alcohol.

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

See Section 11.

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For petroleum distillates:

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

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Burns: No attempt should be made to remove the bitumen (it acts as a sterile dressing). Cover the bitumen with tulle gras and leave for two days when any detached bitumen can be removed. Re-dress and leave for a further week. If necessary refer to a burns unit. [Manufacturer]

For acute or short-term repeated exposures to xylene:

- Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.
- Pulmonary absorption is rapid with about 60-65% retained at rest. Primary threat to life from ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases ( $pO_2 < 50$  mm Hg or  $pCO_2 > 50$  mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.

- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.

#### BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling time
Methylhippu-ric acids in urine	1.5 gm/gm creatinine 2 mg/min	End of shift Last 4 hrs of shift

## 5. FIRE-FIGHTING MEASSURES

### 5.1 Extinguishing media

Water spray or fog.  
Foam.  
Dry chemical powder.

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

#### Fire incompatibility:

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

### 5.3 Advice for fire-fighters

#### Fire-fighting:

Alert fire brigade and tell them location and nature of hazard.  
May be violently or explosively reactive.  
Wear full body protective clothing with breathing apparatus.

#### Fire/explosion hazard:

Liquid and vapour are flammable.  
Moderate fire hazard when exposed to heat or flame.  
Vapour forms an explosive mixture with air.  
Combustion products include:  
- Carbon Dioxide (CO<sub>2</sub>)  
- Carbon Monoxide (CO)  
- Sulfur Oxides (SO<sub>x</sub>)  
- Sulfur Dioxide (SO<sub>2</sub>)  
- Other pyrolysis products typical of burning organic material.  
May emit clouds of acrid smoke.

## 6. ACCIDENTAL RELEASE MEASURES

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

See Section 8.

### 6.2 Environmental Precautions

See Section 12.

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

#### Minor spills:

Remove all ignition sources.  
Clean up all spills immediately.  
Avoid breathing vapours and contact with skin and eyes.

#### Major spills:

Clear area of personnel and move upwind.  
Alert Fire Brigade and tell them location and nature of hazard.  
May be violently or explosively reactive.

## 6.4 Reference to other sections

Personal Protective Equipment advice is contained in Section 8.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Safe handling:

Hydrogen sulfide (H<sub>2</sub>S or Sour Gas) may be present when loading and unloading transport vessels. Stay upwind and away from newly opened hatches and allow to vent thoroughly before handling material. Steam may be used to vent hatches. Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 1$  m/sec until fill pipe submerged to twice its diameter, then  $\leq 7$  m/sec). Avoid all personal contact, including inhalation. Wear protective clothing when risk of overexposure occurs. Use in a well-ventilated area. DO NOT allow clothing wet with material to stay in contact with skin.

#### Fire & explosion protection:

See Section 5.

#### Other information:

Store in original containers in approved flammable liquid storage area. Store away from incompatible materials in a cool, dry, well-ventilated area. DO NOT store in pits, depressions, basements or areas where vapours may be trapped.

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

#### Suitable container:

Packing as supplied by manufacturer. Plastic containers may only be used if approved for flammable liquid. Check that containers are clearly labelled and free from leaks. For low viscosity materials (i): Drums and jerry cans must be of the non-removable head type. (ii): Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt.

#### Storage incompatibility:

Xylenes:

- May ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride.
- Attack some plastics, rubber and coatings.
- May generate electrostatic charges on flow or agitation due to low conductivity.
- Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.
- Aromatics can react exothermically with bases and with diazo compounds.

Hydrogen sulfide (H<sub>2</sub>S):

- Is a highly flammable and reactive gas.
  - Reacts violently with strong oxidisers, metal oxides, metal dusts and powders, bromine pentafluoride, chlorine trifluoride, chromium trioxide, chromyl chloride, dichlorine oxide, nitrogen trichloride, nitryl hypofluorite, oxygen difluoride, perchloryl fluoride, phospham, phosphorus persulfide, silver fulminate, soda-lime, sodium peroxide.
  - Is incompatible with acetaldehyde, chlorine monoxide, chromic acid, chromic anhydride, copper, nitric acid, phenyldiazonium chloride, sodium.
  - Forms explosive material with benzenediazonium salts attacks many metals
- Flow or agitation of hydrogen sulfide may generate electrostatic charges due to low conductivity

For alkyl aromatics:

The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring.

- Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (provided a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution; a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen.

- Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids.



X - Must not be stored together.  
O - May be stored together with specific preventions.  
+ - May be stored together.

### 7.3 Specific end uses(s)

See Section 1.2.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Xylene	Dermal 212 mg/kg bw/day (Systemic, Chronic) Inhalation 221 mg/m <sup>3</sup> (Systemic, Chronic) Inhalation 221 mg/m <sup>3</sup> (Local, Chronic) Inhalation 442 mg/m <sup>3</sup> (Systemic, Acute) Inhalation 442 mg/m <sup>3</sup> (Local, Acute) Dermal 125 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m <sup>3</sup> (Systemic, Chronic) * Oral 12.5 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m <sup>3</sup> (Local, Chronic) * Inhalation 260 mg/m <sup>3</sup> (Systemic, Acute) * Inhalation 260 mg/m <sup>3</sup> (Local, Acute) *	12.46 mg/kg sediment dw (Sediment (Marine))
Bitumen (Blown)	Inhalation 2.9 mg/m <sup>3</sup> (Local, Chronic) Inhalation 0.6 mg/m <sup>3</sup> (Local, Chronic) *	Not available
Tall Oil/Polyethylenepolyamides	Not available	3.63 mg/kg sediment dw (Sediment (Marine)) 5.3 mg/kg food (Oral)

\* Values for general population.

### Occupational Exposure Limits (OEL):

#### Ingredient data:

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	Xylene	Xylene (mixed isomers, pure)	50 ppm / 221 mg/m <sup>3</sup>	442 mg/m <sup>3</sup> / 100 ppm	Not available	Skin
UK Workplace Exposure Limits (WELs)	Xylene	Xylene, o-,m-,p- or mixed isomers	50 ppm / 220 mg/m <sup>3</sup>	441 mg/m <sup>3</sup> / 100 ppm	Not available	Sk, BMGV

#### Emergency limits:

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Xylene	Xylenes	Not available	Not available	Not available

Ingredient	Original IDLH	Revised IDLH
Xylene	900 ppm	Not available
Bitumen (Blown)	Not available	Not available
Tall Oil/Polyethylenepolyamides	Not available	Not available

**Occupational Exposure Banding:**

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Tall Oil/ Polyethylenepolyamides	E	≤ 0.1 ppm
Notes	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

**8.2 Exposure controls**

Appropriate engineering controls: CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build-up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear  
For molten materials:  
Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material.  
Keep dry!!  
Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment.  
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.  
The basic types of engineering controls are:  
Process controls which involve changing the way a job activity or process is done to reduce the risk.

Personal protection:



Eye and face protection:

Safety glasses with side shields.  
Chemical goggles.  
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection:

See Hand Protection below.

Hands/feet protection:

Wear chemical protective gloves, e.g. PVC.  
Wear safety footwear or safety gumboots, e.g. rubber.  
NOTE:  
The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.  
Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.  
The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.  
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Body protection:

See Other Protection below.

Other protection: Overalls.  
PVC Apron.  
PVC protective suit may be required if exposure severe.  
Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.  
For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).  
Non sparking safety or conductive footwear should be considered.

**Recommended material(s):**

**Glove selection index:**

Glove selection is based on a modified presentation of the:  
"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection:  
Alumasc SB Bitumen Primer

Material	CPI
PE/EVAL/PE	A
PVA	A
TEFLON	A
VITON	A
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PVC	C
PVDC/PE/PVDC	C

\* CPI - Chemwatch Performance Index

A: Best Selection.

B: Satisfactory; may degrade after 4 hours continuous immersion.

C: Poor to Dangerous Choice for other than short term immersion.

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**Respiratory protection:**

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent).

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used.

**Environmental exposure controls:**

See Section 12.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Important health, safety and environmental information

Appearance:	Bitumen (known as asphalt in the U.S.) "is the residuum produced from the non-destructive distillation of crude petroleum at atmospheric pressure and/ or under reduced pressures or absence of steam. Bitumens/ asphalts are composed mainly of high-molecular-weight alkylaryl hydrocarbons with high carbon to hydrogen ratios, with carbon numbers > C25, boiling points >400 °C, high viscosity, and negligible water solubility and vapor pressure. These bitumen/ asphalt alkylaryl hydrocarbons are a heterogeneous mixture of linear, branched and cyclic, saturated and unsaturated, and aromatic functional groups. Black		
Physical state:	Liquid	Relative density (Water = 1):	Not available
Odour:	Not available	Partition coefficient n-octanol/water:	Not available
Odour threshold:	Not available	Auto-ignition temperature (°C):	Not available
pH (as supplied):	Not available	Decomposition temperature:	Not available
Melting point/freezing point (°C):	Not available	Viscosity (cSt):	20
Initial boiling point and boiling range (°C):	>150	Molecular weight (g/mol):	Not available
Flash point (°C):	>39	Taste:	Not available
Evaporation rate:	Not available	Explosive properties:	Not available
Flammability:	Flammable	Oxidising properties:	Not available
Upper Explosive Limit (%):	Not available	Surface Tension (dyn/cm or mN/m):	Not available
Lower Explosive Limit (%):	Not available	Volatile Component (%vol):	Not available
Vapour pressure (kPa):	Not available	Gas group:	Not available
Solubility in water:	Immiscible	pH as a solution (1%):	Not available
Vapour density (Air = 1):	Not available	VOC g/L:	Not available

### 9.2 Other information

Not available.

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

See Section 7.2.

### 10.2 Chemical stability

Extremely high temperatures.  
Unstable in the presence of incompatible materials.  
Product is considered stable.  
Hazardous polymerisation will not occur.

### 10.3 Possibility of hazardous reactions

See Section 7.2.

### 10.4 Conditions to avoid

See Section 7.2.

### 10.5 Incompatible materials

See Section 7.2.

### 10.6 Hazardous decomposition products

See Section 5.3

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Inhaled:	<p>There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs.</p> <p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and light-headedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Hydrogen sulfide poisoning can cause increased secretion of saliva, nausea, vomiting, diarrhoea, giddiness, headache, vertigo, memory loss, palpitations, heartbeat irregularities, weakness, muscle cramps, confusion, sudden collapse, unconsciousness and death due to paralysis of breathing (at levels above 300 parts per million). The "rotten egg" odour is not a good indicator of exposure since odour fatigue occurs and odour is lost at over 200 ppm.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Headache, fatigue, tiredness, irritability and digestive disturbances (nausea, loss of appetite and bloating) are the most common symptoms of xylene overexposure. Injury to the heart, liver, kidneys and nervous system has also been noted amongst workers.</p> <p>Xylene is a central nervous system depressant.</p> <p>The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest.</p>
Ingestion:	<p>There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p> <p>Swallowing pieces of the bitumen may produce obstruction at the junction of the stomach and the intestine. This is due to accumulation in the stomach and formation of a stony concretion.</p> <p>Accidental ingestion of the material may be damaging to the health of the individual.</p>
Skin contact:	<p>There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. The material may accentuate any pre-existing dermatitis condition.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material.</p> <p>Entry into the blood-stream through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.</p> <p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p>

**Eye:** Workers exposed to fumes of blown bitumens developed inflammation of the cornea and conjunctiva.  
Exposure to H<sub>2</sub>S may produce pain, blurred vision, and reaction to eyes which may be permanent in severe cases. There is usually redness of the eyes, discomfort on exposure to light, pain, and at higher concentrations blurred vision and injury to the eyes.  
There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.  
The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated.

**Chronic:** Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.  
Long term exposure to coal tar dusts may produce chronic bronchitis or lung cancer. Dust or fume contact with skin may result in photosensitisation of skin areas and sunburn on frequent exposure to sunlight or ultraviolet radiation.  
Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.  
Long-term exposure to bitumen or asphalt fumes, over extended periods, may cause central nervous system depression and liver and kidney changes. Chronic bitumen/asphalt poisoning may result in a decrease in the number of white and red blood cells.  
Prolonged contact with bitumens may produce irritation, inflammation, dermatitis, acne-like lesions, keratoses, melanosis and sensitivity to light. Long-term low level exposure to hydrogen sulfide may produce headache, fatigue, dizziness, irritability and loss of sexual desire. These symptoms may also result when exposed to hydrogen sulfide at high concentration for a short period of time.  
There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.  
Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects. Evaluation of workers chronically exposed to xylene has demonstrated lack of genetic toxicity.

**Alumasc SB Bitumen Primer:**

Toxicity	Irritation
Not available	Not available

**Xylene:**

Toxicity	Irritation
Dermal (rabbit) LD50: >1700 mg/kg <sup>[2]</sup>	Eye (human): 200 ppm irritant
Inhalation (rat) LC50: 4994.295 mg/l/4h <sup>[2]</sup>	Eye (rabbit): 5 mg/24h SEVERE
Oral (rat) LD50: 3523-8700 mg/kg <sup>[2]</sup>	Eye (rabbit): 87 mg mild
	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Skin (rabbit): 500 mg/24h moderate
	Skin: adverse effect observed (irritating) <sup>[1]</sup>

**Bitumen (Blown):**

Toxicity	Irritation
Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>

**Tall Oil/Polyethylenepolyamides:**

Toxicity	Irritation
Dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not available

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity; 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances.

**Alumasc SB Bitumen Primer:** The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.  
The substance is classified by IARC as Group 3:  
NOT classifiable as to its carcinogenicity to humans.  
Evidence of carcinogenicity may be inadequate or limited in animal testing.

**Bitumen (Blown):** WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.  
Ss extracts of steam-refined and air-refined bitumens.

**Tall Oil/Polyethylenepolyamides:** 551imcat  
For quaternary ammonium compounds (QACs):  
Quaternary ammonium compounds are synthetically made surfactants. Studies show that its solubility, toxicity and irritation depend on chain length and bond type while effect on histamine depends on concentration. QACs may cause muscle paralysis with no brain involvement.  
The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  
Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

**Alumasc SB Bitumen Primer & Tall Oil/Polyethylenepolyamides:** The following information refers to contact allergens as a group and may not be specific to this product.  
Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.

**Bitumen (Blown) & Tall Oil/ Polyethylenepolyamides:** No significant acute toxicological data identified in literature search.

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin Sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

**Legend:**  
✗ - Data either not available or does not fill the criteria for classification.  
✓ - Data available to make classification.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Alumasc SB Bitumen Primer:**

End point	Test duration (Hr)	Species	Value	Source
Not available	Not available	Not available	Not available	Not available

**Xylene:**

End point	Test duration (Hr)	Species	Value	Source
LC50	96	Fish	2.6mg/L	2
EC50	48	Crustacea	1.8mg/L	2
EC50	72	Algae or other aquatic plants	3.2mg/L	2
NOEC	73	Algae or other aquatic plants	0.44mg/L	2

**Bitumen (Blown):**

End point	Test duration (Hr)	Species	Value	Source
LC50	96	Fish	>1-mg/L	2
EC50	72	Algae or other aquatic plants	>1-mg/L	2

**Tall Oil/Polyethylenepolyamides:**

End point	Test duration (Hr)	Species	Value	Source
LC50	96	Fish	0.19mg/L	2
EC50	48	Crustacea	0.18mg/L	2
EC50	72	Algae or other aquatic plants	>0.001-mg/L	2
NOEC	48	Crustacea	0.32mg/L	2

**Legend:**

Extracted from 1. IUCLID Toxicity Data; 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity; 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated); 4. US EPA, Ecotox database - Aquatic Toxicity Data; 5. ECETOC Aquatic Hazard Assessment Data; 6. NITE (Japan) - Bioconcentration Data; 7. METI (Japan) - Bioconcentration Data; 8. Vendor Data.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the oxygen transfer between the air and the water.

Oils of any kind can cause:

- drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility
- lethal effects on fish by coating gill surfaces, preventing respiration
- asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and
- adverse aesthetic effects of fouled shoreline and beaches

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

For petroleum distillates:

Environmental fate:

When petroleum substances are released into the environment, four major fate processes will take place: dissolution in water, volatilization, biodegradation and adsorption. These processes will cause changes in the composition of these UVCB substances. In the case of spills on land or water surfaces, photodegradation-another fate process-can also be significant.

For Xylenes:

log Koc : 2.05-3.08; Koc : 25.4-204; Half-life (hr) air : 0.24-42; Half-life (hr) H2O surface water : 24-672; Half-life (hr) H2O ground : 336-8640; Half-life (hr) soil : 52-672; Henry's Pa m<sup>3</sup> /mol : 637-879; Henry's atm m<sup>3</sup> /mol - 7.68E-03; BOD 5 if unstated - 1.4,1%; COD - 2.56,13% ThOD - 3.125 ; BCF : 23; log BCF : 1.17-2.41.

Environmental Fate: Most xylenes released to the environment will occur in the atmosphere and volatilisation is the dominant environmental fate process. Soil - Xylenes are expected to have moderate mobility in soil evaporating rapidly from soil surfaces.

For Bitumens / Asphalt: This family of hydrocarbon is expected to have similar boiling points, vapor pressures, log Kow values (>10), and water solubilities.

Environmental Fate: Bitumen / asphalts are grouped under one category due to limited environmental fate data. The toxicity of this group is not expected to vary significantly across members.

Sulfide ion is very toxic to aquatic life, threshold concentration for fresh or saltwater fish is 0.5ppm. The product therefore is very toxic to aquatic life. The major decomposition product, hydrogen sulfide, is damaging to vegetation at 5ppm for 24 hours.

DO NOT discharge into sewer or waterways.

**12.2 Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)

**12.3 Bioaccumulation potential**

Ingredient	Bioaccumulation
xylene	MEDIUM (BCF = 740)

#### 12.4 Mobility in soil

No data available for all ingredients.

#### 12.5 Results of PBT and vPvB assessment

Not applicable.

#### 12.6 Other adverse effects

Not data available.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

Product / packaging disposal: Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible.  
Otherwise:  
- If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.  
Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.  
DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal.  
In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Recycle wherever possible.  
onsult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.  
Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

Waste treatment options: Not available.

Sewage disposal options: Not available.

### 14. TRANSPORT INFORMATION

#### Labels required:



Marine pollutant:  
Hazchem:

No  
2W

#### Land transport (ADR):

##### 14.1 UN number

1999

##### 14.2 UN proper shipping name

TARS, LIQUIDS, including road oils and cutback bitumens

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

Class: 3  
Subrisk: N/A

##### 14.4 Packing group

III

##### 14.5 Environmental hazard

N/A

##### 14.6 Special precautions for user

Hazard identification (Kemler): 30  
Classification code: F1  
Hazard label: 3  
Special provisions: N/A  
Limited quantity: 5L  
Tunnel restriction code: 3 (D/E)

**Air transport (ICAO-IATA/DGR):**

<b>14.1 UN number</b>	1999	
<b>14.2 UN proper shipping name</b>	TARS, LIQUIDS, including road asphalt and oils, bitumen and cutbacks	
<b>14.3 Transport hazard class(es)</b>	ICAO/IATA class:	3
	ICAO/IATA subrisk:	N/A
	ERG code:	3L
<b>14.4 Packing group</b>	III	
<b>14.5 Environmental hazard</b>	N/A	
<b>14.6 Special precautions for user</b>	Special provisions:	A3
	Cargo only packing instruction:	366
	Cargo only maximum qty/pack:	220L
	Passenger and cargo packing instruction:	355
	Passenger and cargo maximum qty/pack:	60L
	Passenger and cargo limited qty packing instructions:	Y344
	Passenger and cargo limited maximum qty/pack:	10L

**Sea transport (IMDG-Code/GGVSee):**

<b>14.1 UN number</b>	1999	
<b>14.2 UN proper shipping name</b>	TARS, LIQUIDS, including road oils and cutback bitumens	
<b>14.3 Transport hazard class(es)</b>	IMDG class:	3
	IMDG subrisk:	N/A
<b>14.4 Packing group</b>	III	
<b>14.5 Environmental hazard</b>	N/A	
<b>14.6 Special precautions for user</b>	EMS number:	F-E, S-E
	Special provisions:	955
	Limited quantities:	5L

**Inland waterways transport (ADN):**

<b>14.1 UN number</b>	1999	
<b>14.2 UN proper shipping name</b>	-	
<b>14.3 Transport hazard class(es)</b>	Class:	3
	Subrisk:	N/A
<b>14.4 Packing group</b>	III	
<b>14.5 Environmental hazard</b>	N/A	
<b>14.6 Special precautions for user</b>	Classification code:	F1
	Special provisions:	N/A
	Limited quantity:	5L
	Equipment required:	PP, EX, A
	Fire cones numbers:	0

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC code**

Not applicable.

**15. REGULATORY INFORMATION**

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

**Xylene is found on the following regulatory lists:**

- EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs).
- EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances.
- EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.
- Europe ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
- Europe EC Inventory.
- Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD.
- Europe European Agreement concerning the International Carriage of Dangerous Goods by Road.
- Europe European Customs Inventory of Chemical Substances.
- European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification.
- European Trade Union Confederation (ETUC) Priority List for REACH Authorisation.
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS).
- European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31.
- European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI.

European Union (EU) Transport of Dangerous Goods by Road - Dangerous Goods List.  
GESAMP/EHS Composite List - GESAMP Hazard Profiles.  
IMO IBC Code Chapter 17: Summary of minimum requirements.  
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk.  
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards.  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs.  
International Air Transport Association (IATA) Dangerous Goods Regulations.  
International Maritime Dangerous Goods Requirements (IMDG Code).  
Regulations concerning the International Carriage of Dangerous Goods by Rail – Table A: Dangerous Goods List - RID 2019 (English).  
UK Workplace Exposure Limits (WELs).  
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations.

**Bitumen (Blown) is found on the following regulatory lists:**

Europe EC Inventory.  
Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD.  
Europe European Customs Inventory of Chemical Substances.  
European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification.  
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS).  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs.

**Tall Oil/Polyethylenepolyamides is found on the following regulatory lists:**

Europe ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.  
Europe EC Inventory.  
Europe ECHA Registered Substances - Classification and Labelling - DSD-DPD.  
Europe European Agreement concerning the International Carriage of Dangerous Goods by Road.  
European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification.  
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS).  
European Union (EU) Transport of Dangerous Goods by Road - Dangerous Goods List.  
International Air Transport Association (IATA) Dangerous Goods Regulations.  
International Maritime Dangerous Goods Requirements (IMDG Code).  
Regulations concerning the International Carriage of Dangerous Goods by Rail – Table A: Dangerous Goods List - RID 2019 (English).  
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations.

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

<b>National Inventory</b>	<b>Status</b>
Australia – AICS:	Yes
Canada – DSL:	Yes
Canada – NDSL:	No (Bitumen (Blown); Xylene; Tall Oil/ Polyethylenepolyamides)
China – IECSC:	Yes
Europe - EINEC / ELINCS / NLP:	Yes
Japan – ENCS:	No (Bitumen (Blown); Xylene; Tall Oil/ Polyethylenepolyamides)
Korea – KECI:	Yes
New Zealand – NZIoC:	Yes
Philippines – PICCS:	Yes
USA – TSCA:	Yes
Taiwan – TCSI:	Yes
Mexico – INSQ:	No (Bitumen (Blown); Xylene; Tall Oil/ Polyethylenepolyamides)
Vietnam – NCI:	Yes
Russia – ARIPS:	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory. No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets).



## 16. OTHER INFORMATION

### Other information:

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios.

H302:	Harmful if swallowed.
H317:	May cause an allergic skin reaction.
H318:	Causes serious eye damage.
H336:	May cause drowsiness or dizziness.
H351:	Suspected of causing cancer.
H410:	Very toxic to aquatic life with long lasting effects.

### For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166:	Personal eye-protection.
EN 340:	Protective clothing.
EN 374:	Protective gloves against chemicals and micro-organisms.
EN 13832:	Footwear protecting against chemicals.
EN 133:	Respiratory protective devices.

### Definitions and abbreviations:

PC—TWA:	Permissible Concentration-Time Weighted Average.
PC—STEL:	Permissible Concentration-Short Term Exposure Limit.
IARC:	International Agency for Research on Cancer.
ACGIH:	American Conference of Governmental Industrial Hygienists.
STEL:	Short Term Exposure Limit.
TEEL:	Temporary Emergency Exposure Limit.
IDLH:	Immediately Dangerous to Life or Health Concentrations.
OSF:	Odour Safety Factor.
NOAEL:	No Observed Adverse Effect Level.
LOAEL:	Lowest Observed Adverse Effect Level.
TLV:	Threshold Limit Value.
LOD:	Limit of Detection.
OTV:	Odour Threshold Value.
BCF:	Bio Concentration Factors.
BEI:	Biological Exposure Index.

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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