

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

1.1 Product identifier

Trade name/designation: Caltech FCP Epoxy Primer Activator

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

Relevant identified uses: Two-component, epoxy-based adhesive.

Recommended restrictions: Reserved for industrial and professional use.

1.3 Supplier details

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

1.4 Emergency telephone number

Association / Organisation: National Poisons Information Service
Emergency telephone numbers: 0344 892 0111 (Healthcare professionals only)
Other emergency telephone numbers Alumasc Building Products: +44 17 4464 8400
(Mon-Thurs – 08.30-17.00 Fri – 08.30-16.00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

H225 - Flammable Liquids Category 2, H302 - Acute Toxicity (Oral) Category 4, H317 - Sensitisation (Skin) Category 1, H319 - Serious Eye, Damage/Eye Irritation Category 2, H334 - Sensitisation (Respiratory) Category 1, H336 - Specific Target Organ Toxicity - Single Exposure, (Narcotic Effects) Category 3, H351 - Carcinogenicity Category 2

2.2 Label elements

Hazard pictures:



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Precautionary statements response: P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor/physician/first aider.
P370+P378: In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.

Precautionary statement(s) 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

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

This substance/mixture does not meet the criteria for classification as Persistent, Bioaccumulative, and Toxic (PBT) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as very Persistent and very Bioaccumulative (vPvB) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as Persistent, Mobile and Toxic (PMT) in accordance with Commission Delegated Regulation (EU) 2023/707.

This substance/mixture does not meet the criteria for classification as very Persistent and very Mobile (vPvM) in accordance with Commission Delegated Regulation (EU) 2023/707.

The substance/mixture does not contain components considered to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, nor is it included in the list established under REACH Article 59(1), at concentrations equal to or greater than 0.1% (w/w).

No further product hazard information.

3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

3.1 Substances

See 'Composition on ingredients' in Section 3.2.

3.2 Mixtures

Other data:

This mixture contains $\geq 1\%$ titanium dioxide (CAS 13463-67-7) The Annex VI classification of Titanium dioxide does not apply to this mixture according to its Note 10.

1.CAS No 2.EC No 3.Index No 4.REACH No	% [weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 68082-29-1 2.500-191-5 3.Not Available 4.01-2119972320-44-0001	30-60	tall oil/ triethy lenetetramine poly amides	Skin Corrosion/Irritation Category 2, Skin Sens. 1A, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2; H315, H317, H318, H411 [3]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not available

1. 1330-20-7 2.215-535-7 3. Not Available 4.01-2119488216-32-0030	10-30	xy lene *	Flammable Liquids Category 3, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 2, Acute Toxicity (inhalation) Category 4; H226, H312, H315, H332 [2]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not available
1. 90-72-2 2.202-013-9 3.603-069-00-0 4.01-2119560597-27-0003	5-10	2,4,6- tris[(dimethylamino) methyl]phenol	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2; H302, H315, H319 [2]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not available
1. 100-41-4 2.202-849-4 3.601-023-00-4 4.01-2119489370-35-18	1-5	ethylbenzene * -	Flammable Liquids Category 2, Aspiration Hazard Category 1, Acute Toxicity (Inhalation) Category 4, Specific Target Organ Toxicity - Repeated Exposure Category 2; H225, H304, H332, H373 [2]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not available
1. 108-88-3 2.203-625-9 3.601-021-00-3 4.01-2119471310-51-0051	<1	toluene * -	Flammable Liquids Category 2, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2; H225, H304, H315, H336, H361d ***, H373 ** [2]	SCL: Not Available Acute M factor: Not Applicable Chronic M factor: Not Applicable	Not available
Legend:	1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties.				

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact:	If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with 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. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel..
Skin contact:	If skin 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.
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:

For advice, contact a Poisons Information Centre or a doctor at once.

Urgent hospital treatment is likely to be needed.

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.

Transport to hospital or doctor without delay.

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

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.

For amines:

Certain amines may cause injury to the respiratory tract and lungs if aspirated. Also, such products may cause tissue destruction leading to stricture. If lavage is performed, endotracheal and/or esophagoscopy control is suggested.

No specific antidote is known.

Care should be supportive and treatment based on the judgment of the physician in response to the reaction of the patient. Laboratory animal studies have shown that a few amines are suspected of causing depletion of certain white blood cells and their precursors in lymphoid tissue. These effects may be due to an immunosuppressive mechanism.

Some persons with hyperreactive airways (e.g., asthmatic persons) may experience wheezing attacks (bronchospasm) when exposed to airway irritants.

Lung injury may result following a single massive overexposure to high vapour concentrations or multiple exposures to lower concentrations of any pulmonary irritant material. Health effects of amines, such as skin irritation and transient corneal edema ("blue haze," "halo effect," "glaucompsia"), are best prevented by means of formal worker education, industrial hygiene monitoring, and exposure control methods. Persons who are highly sensitive to the triggering effect of non-specific irritants should not be assigned to jobs in which such agents are used, handled, or manufactured.

Medical surveillance programs should consist of a pre-placement evaluation to determine if workers or applicants have any impairments (e.g., hyperreactive airways or bronchial asthma) that would limit their fitness for work in jobs with potential for exposure to amines. A clinical baseline can be established at the time of this evaluation. Periodic medical evaluations can have significant value in the early detection of disease and in providing an opportunity for health counseling.

Medical personnel conducting medical surveillance of individuals potentially exposed to polyurethane amine catalysts should consider the following:

- Health history, with emphasis on the respiratory system and history of infections

- Physical examination, with emphasis on the respiratory system and the lymphoreticular organs (lymph nodes, spleen, etc.)

- Lung function tests, pre- and post-bronchodilator if indicated

- Total and differential white blood cell count

- Serum protein electrophoresis

Persons who are concurrently exposed to isocyanates also should be kept under medical surveillance.

Pre-existing medical conditions generally aggravated by exposure include skin disorders and allergies, chronic respiratory disease (e.g. bronchitis, asthma, emphysema), liver disorders, kidney disease, and eye disease.

Broadly speaking, exposure to amines, as characterised by amine catalysts, may cause effects similar to those caused by exposure to ammonia. As such, amines should be considered potentially injurious to any tissue that is directly contacted.

Inhalation of aerosol mists or vapors, especially of heated product, can result in chemical pneumonitis, pulmonary edema, laryngeal edema, and delayed scarring of the airway or other affected organs. There is no specific treatment.

Clinical management is based upon supportive treatment, similar to that for thermal burns.

Persons with major skin contact should be maintained under medical observation for at least 24 hours due to the possibility of delayed reactions.

Polyurethane Amine Catalysts: Guidelines for Safe Handling and Disposal Technical Bulletin June 2000 Alliance for Polyurethanes Industry

Treat symptomatically.

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 exposures to quaternary ammonium compounds:

For ingestion of concentrated solutions (10% or higher): Swallow promptly a large quantity of milk, egg whites / gelatin solution. If not readily available, a slurry of activated charcoal may be useful. Avoid alcohol. Because of probable mucosal damage omit gastric lavage and emetic drugs.

For dilute solutions (2% or less): If little or no emesis appears spontaneously, administer syrup of Ipecac or perform gastric lavage.

If hypotension becomes severe, institute measures against circulatory shock.

If respiration laboured, administer oxygen and support breathing mechanically. Oropharyngeal airway may be inserted in absence of gag reflex. Epiglottic or laryngeal edema may necessitate a tracheotomy.

Persistent convulsions may be controlled by cautious intravenous injection of diazepam or short-acting barbiturate drugs. [Gosselin et al, Clinical Toxicology of Commercial Products]

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	Comments
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

Suitable extinguishing media:

Foam.
Dry chemical powder.
BCF (where regulations permit).
Carbon dioxide

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

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.
Prevent, by any means available, spillage from entering drains or water course.

Fire/Explosion Hazard Liquid and vapour are highly flammable.
Severe fire hazard when exposed to heat, flame and/or oxidisers.
Vapour may travel a considerable distance to source of ignition.
Heating may cause expansion or decomposition leading to violent rupture of containers.
Combustion products include:
carbon dioxide (CO₂)
isocyanates
hydrogen cyanide
and minor amounts of
nitrogen oxides (NO_x)
other pyrolysis products typical of burning organic material.

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.
- Control personal contact with the substance, by using protective equipment.

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.
- Wear full body protective clothing with breathing apparatus.

6.4 Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Safe handling:

- 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.
- Contains low boiling substance:
- Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.
- Check for bulging containers.
- Vent periodically
- Always release caps or seals slowly to ensure slow dissipation of vapours
- 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 (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec).
- Avoid splash filling.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

DO NOT allow clothing wet with material to stay in contact with skin

Fire and 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.

No smoking, naked lights, heat or ignition sources.

7.2 Conditions for safe storage, including any incompatibilities

Suitable container:

DO NOT use aluminium, galvanised or tin-plated containers

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. (23 deg. C)

For manufactured product having a viscosity of at least 250 cSt.

Storage incompatibility:

Quaternary ammonium cations are unreactive toward even strong electrophiles, oxidants, and acids. They also are stable toward most nucleophiles. The latter is indicated by the stability of the hydroxide salts such as tetramethylammonium hydroxide and tetrabutylammonium hydroxide.

Quaternary ammonium compounds are deactivated by anionic detergents (including common soaps).

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.

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.

Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides.

Avoid strong acids, bases.

Imidazole may be regarded as possessing pyrrole and pyridine like properties and therefore its reactivity might resemble that of the others. In general imidazole, in common with pyrazole, is less reactive than pyrrole and more reactive than benzene.

One peculiarity of imidazole is the impossibility to distinguish the two nitrogen atoms in solution. The hydrogen moves according to a tautomeric equilibria (that is exactly 50% of each form) from one nitrogen to the other.

Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)

P5a: Flammable Liquids,

P5b: Flammable Liquids,

P5c: Flammable Liquids,

E2: Hazardous to the Aquatic Environment in Category Chronic 2

Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of:

P5a Lower- / Upper-tier requirements: 10 / 50

P5b Lower- / Upper-tier requirements: 50 / 200

P5c Lower- / Upper-tier requirements: 5 000 / 50 000

E2 Lower- / Upper-tier requirements: 200 / 500

7.3. Specific end use(s)

See section 1.2

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
tall oil/ triethylenetetramine polyamides	Dermal 0.272 mg/kg bw/day (Systemic, Chronic) Inhalation 0.952 mg/m ³ (Systemic, Chronic) Dermal 0.0972 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.169 mg/m ³ (Systemic, Chronic) * Oral 0.0972 mg/kg bw/day (Systemic, Chronic) *	0.004 mg/L (Water (Fresh)) 0.043 mg/L (Water - Intermittent release) 0 mg/L (Water (Marine)) 434.02 mg/kg sediment dw (Sediment (Fresh Water)) 43.4 mg/kg sediment dw (Sediment (Marine)) 86.78 mg/kg soil dw (Soil) 3.84 mg/L (STP)
xylene	Dermal 212 mg/kg bw/day (Systemic, Chronic) Inhalation 221 mg/m ³ (Systemic, Chronic) Inhalation 221 mg/m ³ (Local, Chronic) Inhalation 442 mg/m ³ (Systemic, Acute) Inhalation 442 mg/m ³ (Local, Acute) Dermal 125 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m ³ (Systemic, Chronic) * Oral 5 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m ³ (Local, Chronic) * Inhalation 260 mg/m ³ (Systemic, Acute) * Inhalation 260 mg/m ³ (Local, Acute) *	0.044 mg/L (Water (Fresh)) 0.01 mg/L (Water - Intermittent release) 0.004 mg/L (Water (Marine)) 2.52 mg/kg sediment dw (Sediment (Fresh Water)) 0.252 mg/kg sediment dw (Sediment (Marine)) 0.852 mg/kg soil dw (Soil) 1.6 mg/L (STP)
2,4,6- tris[(dimethylamino) methyl]phenol	Dermal 0.15 mg/kg bw/day (Systemic, Chronic) Inhalation 0.53 mg/m ³ (Systemic, Chronic) Dermal 0.6 mg/kg bw/day (Systemic, Acute) Inhalation 2.1 mg/m ³ (Systemic, Acute) Dermal 0.075 mg/kg bw/day (Systemic, Chronic) * Inhalation 0.13 mg/m ³ (Systemic, Chronic) * Oral 0.075 mg/kg bw/day (Systemic, Chronic) * Dermal 0.075 mg/kg bw/day (Systemic, Acute) * Inhalation 0.13 mg/m ³ (Systemic, Acute) *	0.046 mg/L (Water (Fresh)) 0.46 mg/L (Water - Intermittent release) 0.005 mg/L (Water (Marine)) 0.262 mg/kg sediment dw (Sediment (Fresh Water)) 0.026 mg/kg sediment dw (Sediment (Marine)) 0.025 mg/kg soil dw (Soil) 0.2 mg/L (STP)
ethylbenzene	Dermal 180 mg/kg bw/day (Systemic, Chronic) Inhalation 77 mg/m ³ (Systemic, Chronic) Inhalation 293 mg/m ³ (Local, Acute) Inhalation 15 mg/m ³ (Systemic, Chronic) * Oral 1.6 mg/kg bw/day (Systemic, Chronic) *	0.1 mg/L (Water (Fresh)) 0.1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 13.7 mg/kg sediment dw (Sediment (Fresh Water)) 1.37 mg/kg sediment dw (Sediment (Marine)) 2.68 mg/kg soil dw (Soil) 9.6 mg/L (STP) 20 mg/kg food (Oral)
toluene	Dermal 384 mg/kg bw/day (Systemic, Chronic) Inhalation 192 mg/m ³ (Systemic, Chronic) Inhalation 192 mg/m ³ (Local, Chronic) Inhalation 384 mg/m ³ (Systemic, Acute) Inhalation 384 mg/m ³ (Local, Acute) Dermal 226 mg/kg bw/day (Systemic, Chronic) * Inhalation 56.5 mg/m ³ (Systemic, Chronic) * Oral 8.13 mg/kg bw/day (Systemic, Chronic) * Inhalation 56.5 mg/m ³ (Local, Chronic) * Inhalation 226 mg/m ³ (Systemic, Acute) * Inhalation 226 mg/m ³ (Local, Acute) *	0.074 mg/L (Water (Fresh)) 0.0378 mg/L (Water - Intermittent release) 0.0074 mg/L (Water (Marine)) 1.78 mg/kg sediment dw (Sediment (Fresh Water)) 0.178 mg/kg sediment dw (Sediment (Marine)) 0.313 mg/kg soil dw (Soil) 0.84 mg/L (STP)

* 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/m3	442 mg/m3 / 100 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	xylene	Xylene, o-,m-,p- or mixed isomers	50 ppm / 220 mg/m3	441 mg/m3 / 100 ppm	Not Available	Sk, BMGV
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	ethylbenzene	Ethyl benzene	100 ppm / 442 mg/m3	884 mg/m3 / 200 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	ethylbenzene	Ethylbenzene	100 ppm / 441 mg/m3	552 mg/m3 / 125 ppm	Not Available	Sk
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	toluene	Toluene	50 ppm / 192 mg/m3	384 mg/m3 / 100 ppm	Not Available	Skin
UK Workplace Exposure Limits (WELs)	toluene	Toluene	50 ppm / 191 mg/m3	384 mg/m3 / 100 ppm	Not Available	Sk

Ingredient	Original IDLH	Revised IDLH
tall oil/ triethylenetetramine polyamides	Not Available	Not Available
xylene	900 ppm	Not Available
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available	Not Available
ethylbenzene	Not Available	Not Available
toluene	500 ppm	Not Available

8.2 Exposure controls

8.2.1. 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 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. Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment.
8.2.2. Personal protection:	  

Eye and face protection:	Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent] Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
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 When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. 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 can not 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. Personal hygiene is a key element of effective hand care. Neoprene rubber gloves
Body protection:	See Other protection below
Other protection	Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. 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. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.
Respiratory protection	Respiratory protection is only required in the likelihood that relevant exposure limits may be approached or exceeded, e.g. application in enclosed spaces with restricted air exchange. Concentrations of potentially hazardous substances in air will remain low during normal outdoor application and will not pose a risk to the applicator. Type AX-P 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

8.2.3. Environmental exposure controls

See section 12

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Important health, safety and environmental information

Physical state:	Liquid	Relative density (Water = 1)	0.91
Colour:	Colourless	Partition coefficient n-octanol / water	Not Available
Odour:	Not Available	Auto-ignition temperature (°C)	>382
Odour threshold:	Not Available	Decomposition temperature (°C)	Not Available
pH (as supplied):	Not available	Viscosity (cSt)	20.50
Melting point/freezing point (°C):	Not Available	Molecular weight (g/mol)	Not Available
Boiling point (°C):	37 °C	Taste	Not Available
Flash point (°C):	27 °C	Oxidising properties	Not Available
Evaporation rate [kg/(s m²)]:	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Flammability	FLAMMABLE.	Volatile Component (%vol)	Not Available
Upper Explosive Limit (%):	6.7%	Gas group	Not Available
Lower Explosive Limit (%):	0.8%	pH as a solution (1%)	Not Available
Vapour pressure (kPa)	Not Available	VOC g/L	Not Available
Solubility in water	Immiscible	Ignition Distance (cm)	Not Available
Vapour density (Air = 1)	Not Available	Flame Duration (s)	Not Available
Heat of Combustion (kJ/g)	Not Available	Enclosed Space Ignition	Not Available
Flame Height (cm)	Not Available	Deflagration Density (g/m³)	Not Available
Enclosed Space Ignition Time Equivalent (s/m³)	Not Available	Nanoform Particle Characteristics	Not Available
Nanoform Solubility	Not Available		
Particle Size Not Available	Not Available	Explosive properties	Not Available

9.2 Other information

Not Available

10. STABILITY AND REACTIVITY

10.1. Reactivity

See section 7.2

10.2. Chemical stability

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 hazard classes as defined in Regulation (EC) No 1272/2008

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating.
d) Respiratory or Skin sensitisation	There is sufficient evidence to classify this material as sensitising to skin or the respiratory system.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	Based on available data, the classification criteria are not met.
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

Inhaled:	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. 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. Inhalation of amine vapours may cause irritation of the mucous membrane of the nose and throat, and lung irritation with respiratory distress and cough. Swelling and inflammation of the respiratory tract is seen in serious cases; with headache, nausea, faintness and anxiety. Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing 'amine asthma'. Inhalation hazard is increased at higher temperatures. 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. 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. 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. Heart stoppage may result from cardiovascular collapse. Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. 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. Xylene is a central nervous system depressant Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.
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Ingestion:	Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucous. Amines without benzene rings when swallowed are absorbed throughout the gut. Corrosive action may cause damage throughout the gastrointestinal tract. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) 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. Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal discomfort and be harmful or toxic if swallowed.
Skin contact:	Volatile amine vapours produce irritation and inflammation of the skin. Direct contact can cause burns. Cationic surfactants cause skin irritation, and, in high concentrations, caustic burns. Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Cutaneous reactions include erythema, intolerable itching and severe facial swelling. Open cuts, abraded or irritated skin should not be exposed to this material 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. Skin contact with the material may be harmful; systemic effects may result following absorption.
Eye:	If applied to the eyes, this material causes severe eye damage. Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in 'halos' around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Direct eye contact with liquid volatile amines may produce eye damage, permanent for the lighter species. Many cationic surfactants are very irritating to the eyes at low concentration. Concentrated solutions can cause severe burns with permanent clouding. 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:	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists that this material directly causes reduced fertility Imidazole is structurally related, and has been used to counteract the effects of histamine. Imidazoles have been reported to disrupt male fertility, through disruption of the function of the testes. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation. 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. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATYTS]

Caltech FCP Epoxy Primer - Activator

Toxicity	Irritation
Not available	Not available

tall oil/ triethylenetetramine polyamides

Toxicity	Irritation
dermal (rat) LD50: >2000 mg/kg[1]	Eye: adverse effect observed (irritating)[1]
Oral (Rat) LD50: >2000 mg/kg[1]	Skin: adverse effect observed (irritating)[1]

xylene

Toxicity	Irritation
Dermal (rabbit) LD50: >1700 mg/kg[2]	Eye (Human): 200ppm
Inhalation (Rat) LC50: 5000 ppm4h[2]	Eye (Rodent - rabbit): 5mg/24H - Severe
Oral (Mouse) LD50: 2119 mg/kg[2]	Eye (Rodent - rabbit): 87mg - Mild
	Eye: adverse effect observed (irritating)[1]
	Skin (Rodent - rabbit): 100% - Moderate
	Skin (Rodent - rabbit): 500mg/24H - Moderate
	Skin (Rodent - rat): 60uL/8H - Mild
	Skin: adverse effect observed (irritating)[1]

2,4,6-tris[(dimethylamino)methyl]phenol

Toxicity	Irritation
dermal (rat) LD50: >973 mg/kg[1]	Eye (Rodent - rabbit): 50ug/24H - Severe
Oral (Rat) LD50: 1200 mg/kg[2]	Eye: adverse effect observed (irreversible damage)[1]
	Skin (Rodent - rabbit): 2mg/24H - Severe
	Skin (Rodent - rabbit): 500uL/24H - Severe
	Skin (Rodent - rat): 0.025mL - Mild
	Skin (Rodent - rat): 0.25mL - Severe
	Skin: adverse effect observed (corrosive)[1]

ethylbenzene

Toxicity	Irritation
Dermal (rabbit) LD50: 17800 mg/kg[2]	Eye (Rodent - rabbit): 500mg - Severe
Inhalation (Rat) LC50: 17.2 mg/l4h[2]	Skin (Rodent - rabbit): 15mg/24H - Mild
Oral (Rat) LD50: 3500 mg/kg[2]	

toluene

Toxicity	Irritation
Dermal (rabbit) LD50: 12124 mg/kg[2]	Eye (Human): 300ppm
Inhalation (Rat) LC50: >13350 ppm4h[2]	Eye (Rodent - rabbit): 0.1mL
Oral (Rat) LD50: 636 mg/kg[2]	Eye (Rodent - rabbit): 0.1mL - Severe
	Eye (Rodent - rabbit): 100mg/30S - Mild
	Eye (Rodent - rabbit): 2mg/24H - Severe
	Eye (Rodent - rabbit): 870ug - Mild
	Eye: adverse effect observed (irritating)[1]
	Skin (Mammal - pig): 250uL/24H - Mild
	Skin (Rodent - rabbit): 20mg/24H - Moderate
	Skin (Rodent - rabbit): 435mg - Mild
	Skin (Rodent - rabbit): 500mg - Moderate
	Skin: adverse effect observed (irritating)[1]
	Skin: no adverse effect observed (not irritating)[1]

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.

Reference No: SDS-PAS017-A Version: 1.0
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Caltech FCP Epoxy Primer - Activator	Data demonstrate that during inhalation exposure, aromatic hydrocarbons undergo substantial partitioning into adipose tissues. Following cessation of exposure, the level of aromatic hydrocarbons in body fats rapidly declines. Thus, the aromatic hydrocarbons are unlikely to bioaccumulate in the body. Selective partitioning of the aromatic hydrocarbons into the non-adipose tissues is unlikely.
TALL OIL/ TRIETHYLENETETRAMINE POLYAMIDES	Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins. Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. Laboratory testing shows that the fatty acid amide, cocoamide DEA, causes occupational allergic contact dermatitis, and that allergy to this substance is becoming more common. Alkanolamides are manufactured by condensation of diethanolamine and the methyl ester of long chain fatty acids.
XYLENE	Reproductive effector in rats 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.
2,4,6- TRIS[(DIMETHYLAMINO)METHYL]PHENOL	Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. No significant acute toxicological data identified in literature search. The material may cause severe 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. Repeated exposures may produce severe ulceration.
ETHYLBENZENE	Liver changes, uterine tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded. Ethylbenzene is readily absorbed when inhaled, swallowed or in contact with the skin. It is distributed throughout the body, and passed out through urine. It may irritate the skin, eyes and may cause hearing loss if exposed to high doses. Long Term exposure may cause damage to the kidney, liver and lungs, including a tendency to cancer formation, according to animal testing. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
TOLUENE	For toluene: Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy. Exposure to inhalation at a concentration of 600 parts per million for 8 hours resulted in the same and more serious symptoms including euphoria (a feeling of well-being), dilated pupils, convulsions and nausea.

Caltech FCP Epoxy Primer - Activator & 2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL	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. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
Caltech FCP Epoxy Primer - Activator & TALL OIL/ TRIETHYLENETETRAMINE POLYAMIDES	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. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. For imidazoline surfactants (amidoamine/ imidazoline - AAls) All substances within the AAl group show the same reactive groups, show similar composition of amide, imidazoline, and some dimer structures of both, with the length of original EA amines used for production as biggest difference. Inherent reactivity and toxicity is not expected to differ much between these substances. All in vivo skin irritation/corrosion studies performed on AAl substances all indicate them to be corrosive following 4 hour exposure. There do not seem to be big differences in response with the variation on EA length used for the production of the AAl. The available data available for AAl substances indicate that for AAl based on shorter polyethyleneamines (EA), higher toxicity is observed compared to AAl based on longer EA. Ethyleneamines are very reactive and can cause chemical burns, skin rashes and asthma-like symptoms. It is readily absorbed through the skin and may cause eye blindness and irreparable damage. As such, they require careful handling. In general, the low-molecular weight polyamines have been positive in the Ames assay (for genetic damage); however, this is probably due to their ability to chelate copper. 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. There is a significant association between the development of asthma symptoms and the use of QACs as disinfectant. The chemicals in the Fatty Nitrogen Derived (FND) Amides are generally similar in terms of physical and chemical properties, environmental fate and toxicity. Its low acute oral toxicity is well established across all subcategories by the available data and show no apparent organ specific toxicity, mutation, reproductive or developmental defects.
XYLENE & 2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
XYLENE & ETHYLBENZENE & TOLUENE	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.

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.

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish [mg/l]:

Hazardous ingredients:

Caltech FCP Epoxy Primer - Activator				
End Point	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

tall oil/ triethylenetetramine polyamides				
End Point	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	4.34mg/l	2
EC50	48h	Crustacea	7.07mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	0.5mg/l	2
LC50	96h	Fish	7.07mg/l	2

xylene				
End Point	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	4.6mg/l	2
EC50	48h	Crustacea	1.8mg/l	2
NOEC(ECx)	73h	Algae or other aquatic plants	0.44mg/l	2
LC50	96h	Fish	2.6mg/l	2

2,4,6-tris[(dimethylamino)methyl]phenol				
End Point	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	2.8mg/l	2
EC50	48h	Crustacea	>100mg/l	2
EC10(ECx)	72h	Algae or other aquatic plants	~1.13mg/l	2
LC50	96h	Fish	>100mg/l	2

ethylbenzene				
End Point	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	2.4-9.8mg/L	4
EC50	48h	Crustacea	1.37-4.4mg/l	4
EC50(ECx)	24h	Algae or other aquatic plants	0.02-938mg/L	4
EC50	96h	Algae or other aquatic plants	1.7-7.6mg/L	4
LC50	96h	Fish	3.381-4.075mg/L	4

toluene				
End Point	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	12.5mg/L	4
EC50	48h	Crustacea	3.78mg/L	5
NOEC(ECx)	168h	Crustacea	0.74mg/l	2
EC50	96h	Algae or other aquatic plants	>376.71mg/L	4
LC50	96h	Fish	5-35mg/l	4

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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

Very 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. Surfactants are in general toxic to aquatic organisms due to their surface-active properties. Historically, synthetic surfactants were often composed of branched alkyl chains resulting in poor biodegradability which led to concerns about their environmental effects. Today however, many of them, for example those used in large amounts, globally, as detergents, are linear and therefore readily biodegradable and considered to be of rather low risk to the environment. A linear structure of the hydrophobic chain facilitates the approach of microorganism while branching, in particular at the terminal position, inhibits biodegradation.

for imidazoline surfactants:
Ecotoxicity
Due to intrinsic properties of amine containing cationic surfactants river water ecotoxicity tests deliver more reproducible test results with limited uncertainty. As river water has a mitigating effect on ecotoxicity due to sorption of the amines to DOC and suspended matter a factor of 10 should be applied to the L(E)C50 to correct for the lower ecotoxicity observed.

for amides, fatty acids C18 unsat, reaction products with tetraethylenepentamine (CAS RN: 1225197-81-8) Fish LC50 (96 h): 190 ug/l
Algae ErC50 (72 h): 612 ug/l; ErC10/ NOEC: 379 ug/l Daphnia EC50 (48 h): 240, 490 ug/l; (21 d) 75 ug/l Biodegradability
For amidoamines/imidazolines no ready biodegradability results have been obtained.
This leads to the following environmental classification according for amidoamines/imidazolines Acute aquatic hazard H400 : Very toxic to aquatic life
M factor acute 10
Chronic(long-term) aquatic hazard Chronic Category 1 H410: Very toxic to aquatic life with longterm effects M factor chronic 1
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. Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.
for Quaternary Ammonium Compounds (QAC's): QAC's are white, crystalline powders. Low molecular weight QACs are very soluble in water, but slightly or not at all soluble in solvents such as ether, petrol and benzene. As the molecular weight and chain lengths increases, the solubility in polar solvents (e.g. water) decreases and the solubility in non-polar solvents increases.
Environmental Fate: A major part of the QACs is discharged into wastewater and removed in the biological processes of sewage treatment, however; the aerobic and anaerobic biodegradability of QACs is not well investigated.
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 m3 /mol : 637-879; Henry's atm m3 /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. The extent of the degradation is expected to depend on its concentration, residence time in the soil, the nature of the soil, and whether resident microbial populations have been acclimated.

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)
2,4,6-tris[(dimethylamino)methyl]phenol	HIGH	HIGH
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)

12.3 Bioaccumulation potential

Ingredient	Bioaccumulation
xylene	MEDIUM (BCF = 740)
2,4,6-tris[(dimethylamino)methyl]phenol	LOW (LogKOW = 0.77)
ethylbenzene	LOW (BCF = 79.43)
toluene	LOW (BCF = 90)

12.4. Mobility in soil

Ingredient	Bioaccumulation
2,4,6-tris[(dimethylamino)methyl]phenol	LOW (Log KOC = 15130)
ethylbenzene	LOW (Log KOC = 517.8)
toluene	LOW (Log KOC = 268)

12.5 Results of PBT and vPvB assessment

	P	B	T	PBT criteria fulfilled?	vP	vB	vPvB criteria fulfilled?
Caltech FCP Epoxy Primer - Activator	No data available	No data available	No data available	No	No data available	No data available	No
tall oil/ triethylenetetramine polyamides	No data available	No data available	No data available	No	No data available	No data available	No
xylene	✗	✗	✓	No	✗	✗	No
2,4,6-tris[(dimethylamino)methyl]phenol	✓	✗	✗	No	✓	✗	No
ethylbenzene	✗	✗	✓	No	✗	✗	No
toluene	✓	✗	✓	No	✗	✗	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal Considerations:	Disposal of this product and its packaging must comply with all applicable environmental protection and waste disposal legislation, including any requirements set by local authorities. Any unwanted or non-recyclable material should be disposed of through a licensed waste disposal contractor. Transportation of such waste may be subject to ADR (International Carriage of Dangerous Goods by Road) regulations and must be managed in accordance with those requirements.
Waste code:	Uncured product: 08 01 11* waste paint and varnish containing organic solvents or other hazardous substances. Cured product inert residue: 17 09 04 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 Empty metal paint tins with only hardened, inert residue: 15 01 04 metallic packaging
Special precautions:	This material and its container must be disposed of in a safe way. Caution should be exercised when handling empty containers that have not been properly cleaned or rinsed, as they may retain hazardous residues. Spillage and wash water from cleaning tools must be prevented from entering soil, watercourses, drains, or sewer systems. Empty containers should be directed to authorised waste disposal or appropriate local recycling facilities. DO NOT seal or stopper drums being decontaminated as CO2 gas is generated and may pressurise containers.
Further information available via:	https://www.alumascroofing.com/downloads/disposal-guides/ 

14. TRANSPORT INFORMATION

Labels required:



Hazchem: ●3Y;●3YE

Land transport (ADR):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3 Transport hazard class(es)	Class: 3 Subsidiary Hazard: N/A
14.4 Packing group	III
14.5 Environmental hazard	Environmentally hazardous
14.6 Special precautions for user	Hazard identification (Kemler): 30 Classification code: F1 Hazard label: 3 Special provisions: 163 367 650 Limited quantity: 5 L Transport Category: 3 Tunnel restriction code: D/E

Air transport (ICAO-IATA/DGR):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3 Transport hazard class(es)	ICAO/IATA class: 3 ICAO/IATA Subsidiary Hazard: N/A ERG code: 3L
14.4 Packing group	III
14.5 Environmental hazard	Environmentally hazardous
14.6 Special precautions for user	Special provisions: A3 A72 A192 Cargo only packing instruction: 366 Cargo only maximum qty/pack: 220 L Passenger and cargo packing instruction: 355 Passenger and cargo maximum qty/pack: 60L Passenger and cargo limited qty packing instructions: Y334 Passenger and cargo limited maximum qty/pack: 10 L

Sea transport (IMDG-Code/GGVSee):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3 Transport hazard class(es)	IMDG class: 3 IMDG Subsidiary Hazard: Not applicable
14.4 Packing group	III
14.5 Environmental hazard	Environmentally hazardous
14.6 Special precautions for user	EMS number: F-E, S-E Special provisions: 163 223 367 955 Limited quantities: 5 L

Inland waterways transport (ADN):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3 Transport hazard class(es)	Class: 3 Subsidiary Hazard: N/A
14.4 Packing group	III

14.5 Environmental hazard	Environmentally hazardous
14.6 Special precautions for user	Classification code: F1 Special provisions: 163; 367; 650 Limited quantity: 5 L Equipment required: PP, EX, A Fire cones numbers: 0

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not applicable.

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
tall oil/ triethylenetetramine polyamides	Not Available
xylene	Not Available
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available
ethylbenzene	Not Available
toluene	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
tall oil/ triethylenetetramine polyamides	Not Available
xylene	Not Available
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available
ethylbenzene	Not Available
toluene	Not Available

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 EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

2,4,6-tris[(dimethylamino)methyl]phenol is found on the following regulatory lists

Europe EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

ethylbenzene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)
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 EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS

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European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

toluene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
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 EC Inventory
Europe European Customs Inventory of Chemical Substances- ECICS
European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures – Annex

Additional Regulatory Information

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - :

Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category: P5a, P5b, P5c, E2

15.2 Chemical Safety Assessment

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

ECHA summary:

Ingredient	CAS number	Index No	ECHA Dossier
tall oil/ triethylenetetramine polyamides	68082-29-1	Not Available	01-2119972320-44-0001

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Corrosion/Irritation Category 2; Sensitisation (Skin) Category 1A; Serious Eye Damage/Eye Irritation Category 1; Hazardous to the Aquatic Environment Long-Term Hazard Category 2	GHS09; GHS05; Dgr	H315; H317; H318; H411
2	Skin Corrosion/Irritation Category 2; Sensitisation (Skin) Category 1A; Serious Eye Damage/Eye Irritation Category 1; Hazardous to the Aquatic Environment Long-Term Hazard Category 2; Serious Eye Damage/Eye Irritation Category 2; Hazardous to the Aquatic Environment Long-Term Hazard Category 3; Corrosive to Metals Category 1; Hazardous to the Aquatic Environment Long-Term Hazard Category 4; Skin Corrosion/Irritation Category 1B; Hazardous to the Aquatic Environment Acute Hazard Category 1; Hazardous to the Aquatic Environment Long-Term Hazard Category 1; Flammable Liquids Category 3; Acute Toxicity (Oral) Category 4; Acute Toxicity (Dermal) Category 4; Acute Toxicity (Inhalation) Category 4; Reproductive Toxicity Category 2	GHS09; GHS05; Dgr; GHS06; GHS08; GHS02	H317; H318; H290; H314; H410; H226; H302; H312; H332; H361

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

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Ingredient	CAS number	Index No	ECHA Dossier
xylene	1330-20-7	Not Available	01-2119488216-32-0030

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flammable Liquids Category 3; Acute Toxicity (Dermal) Category 4; Skin Corrosion/Irritation Category 2; Acute Toxicity (Inhalation) Category 4	GHS07; GHS02; Wng	H226; H312; H315; H332
2	Acute Toxicity (Oral) Category 4; Skin Corrosion/Irritation Category 2; Aspiration Hazard Category 1; Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; Flammable Liquids Category 2; Reproductive Toxicity Category 1B; Hazardous to the Aquatic Environment Long-Term Hazard Category 2; Specific Target Organ Toxicity - Single Exposure Category 1; Specific Target Organ Toxicity - Repeated Exposure Category 1; Reproductive Toxicity Effects on or via Lactation; Hazardous to the Aquatic Environment Acute Hazard Category 1; Sensitisation (Skin) Category 1; Serious Eye Damage/Eye Irritation Category 1	GHS08; Dgr; GHS01; GHS09; GHS05	H312; H315; H332; H304; H335; H225; H336; H360; H411; H370; H372; H302; H362; H400; H317; H318
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
2,4,6-tris[(dimethylamino)methyl]phenol	90-72-2	603-069-00-0	01-2119560597-27-0003

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Toxicity (Oral) Category 4; Skin Corrosion/Irritation Category 2; Serious Eye Damage/Eye Irritation Category 2	GHS07; Wng	H302; H315; H319
2	Acute Toxicity (Oral) Category 4; Skin Corrosion/Irritation Category 2; Serious Eye Damage/Eye Irritation Category 2; Skin Corrosion/Irritation Category 1C; Serious Eye Damage/Eye Irritation Category 1; Hazardous to the Aquatic Environment Long-Term Hazard Category 3; Sensitisation (Skin) Category 1B; Skin Corrosion/Irritation Category 1B; Acute Toxicity (Dermal) Category 4; Skin Corrosion/Irritation Category 1A; Hazardous to the Aquatic Environment Long-Term Hazard Category 2; Acute Toxicity (Oral) Category 5; Acute Toxicity (Dermal) Category 5	GHS05; Dgr; GHS09	H314; H318; H317; H290; H312; H411; H301; H330
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
ethylbenzene	100-41-4	601-023-00-4	01-2119489370-35-18

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flammable Liquids Category 2; Acute Toxicity (Inhalation) Category 4	GHS07; GHS02; Dgr	H225; H332
2	Flammable Liquids Category 2; Aspiration Hazard Category 1; Acute Toxicity (Inhalation) Category 4; Specific Target Organ Toxicity - Repeated Exposure Category 2; Skin Corrosion/Irritation Category 2; Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; Acute Toxicity (Oral) Category 4; Serious Eye Damage/Eye Irritation Category 1; Reproductive Toxicity Category 1B; Specific Target Organ Toxicity - Single Exposure Category 2; Hazardous to the Aquatic Environment Acute Hazard Category 1; Germ Cell	GHS08; GHS02; Dgr; GHS05; GHS09	H225; H304; H332; H373; H315; H336; H335; H411; H334; H312; H318; H302; H360; H371; H400; H340; H350

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	Mutagenicity Category 1B; Carcinogenicity Category 1A; Hazardous to the Aquatic Environment Long-Term Hazard Category 2		
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
toluene	108-88-3	601-021-00-3	01-2119471310-51-0051

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flammable Liquids Category 2; Aspiration Hazard Category 1; Skin Corrosion/Irritation Category 2; Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3; Reproductive Toxicity Category 2; Specific Target Organ Toxicity - Repeated Exposure Category 2	GHS08; GHS02; Dgr	H225; H304; H315; H336; H361; H373
2	Flammable Liquids Category 2; Aspiration Hazard Category 1; Skin Corrosion/Irritation Category 2; Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3; Serious Eye Damage/Eye Irritation Category 2; Hazardous to the Aquatic Environment Long-Term Hazard Category 2; Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; Reproductive Toxicity Category 1A; Acute Toxicity (Oral) Category 4; Specific Target Organ Toxicity - Repeated Exposure Category 1; Specific Target Organ Toxicity - Single Exposure Category 1; Sensitisation (Skin) Category 1; Germ Cell Mutagenicity Category 1B; Carcinogenicity Category 1A	GHS08; Dgr; GHS09; GHS01; GHS06; GHS05	H225; H304; H315; H336; H411; H362; H335; H372; H301; H332; H360; H370; H228; H318; H340; H350
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (tall oil/ triethylenetetramine polyamides; xylene; 2,4,6-tris[(dimethylamino)methyl]phenol; ethylbenzene; toluene)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	No (tall oil/ triethylenetetramine polyamides)
UAE - Control List (Banned/RestrictedSubstances)	No (tall oil/ triethylenetetramine polyamides; xylene; 2,4,6-tris[(dimethylamino)methyl]phenol; ethylbenzene; toluene)
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

SDS version summary:

Version	Date of Update	Section Updated
1.0	13/04/2026	Template Change

Other information

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. Scale of use, frequency of use and current or available engineering controls must be considered. 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

ES: Exposure Standard

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: BioConcentration Factors

BEI: Biological Exposure Index

DNEL: Derived No-Effect Level

PNEC: Predicted no-effect concentration

MARPOL: International Convention for the Prevention of Pollution from Ships

IMSBC: International Maritime Solid Bulk Cargoes Code

IGC: International Gas Carrier Code

IBC: International Bulk Chemical Code

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCs: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Flammable Liquids Category 3, H226	On basis of test data
Skin Corrosion/Irritation Category 2, H315	Calculation method
Sensitisation (Skin) Category 1A, H317	Calculation method
Serious Eye Damage/Eye Irritation Category 1, H318	Calculation method
Hazardous to the Aquatic Environment Long-Term Hazard Category 2, H411	Calculation method

The contents and format of this Safety Data Sheet comply with UK REACH (UK Regulation (EC) No 1907/2006 as amended) and UK CLP Regulation (UK Regulation (EC) No 1272/2008 as amended), including the requirements of Annex II of UK REACH

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