

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

1.1 Product identifier

Trade name/designation: Caltech FCP SP Primer.

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

Relevant identified uses: Primer.

Recommended restrictions: SU22 Professional uses
SU3 Industrial uses

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

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]:

H225 - Flammable Liquids Category 2, H315 - Skin Corrosion/Irritation Category 2, H317 - Sensitisation (Skin) Category 1, H319 - Serious Eye Damage/Eye Irritation Category 2, H336 - Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, H361d - Reproductive Toxicity Category 2, H373 - Specific Target Organ Toxicity - Repeated Exposure Category 2, H412 - Hazardous to the Aquatic Environment Long-Term Hazard Category 3.

2.2 Label elements

Hazard pictures:



Signal word:

Danger.

Hazard statements:

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.
H361d: Suspected of damaging the unborn child.
H373: May cause damage to organs through prolonged or repeated exposure.
(Skin) (Dermal, Inhalation)
H412: Harmful to aquatic life with long lasting effects

Supplementary statement(s):

EUH204: Contains isocyanates. May produce an allergic reaction.

Precautionary statements prevention:

P201: Obtain special instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260: Do not breathe the mist/vapours/spray.
P271: Use only a well-ventilated area.

Precautionary statements response: P308+P313 IF exposed or concerned: Get medical advice/attention.
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.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) storage: P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

Toluene: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply).
N-Butyl Acetate: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply).
Xylene: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply).
cyclohexane: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply).

3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

3.1 Substances

See 'Composition on ingredients' in Section 3.2.

3.2 Mixtures

Ingredient	Numbers	Classification (EC) 1272/2008	SCL / M-Factor	Nanoform Particle Characteristics	Concentration
Toluene *	CAS No: 108-88-3 EC-No: 203-625-9 Index-No: 601-021-00-3 REACH No: Not available	Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Specific Target Organ Toxicity – Single Exposure (Narcotic Effects) Category 3, Specific Target Organ Toxicity - Repeated Exposure Category 2, Aspiration Hazard Category 1; H225, H315, H361d, H336, H373, H304 [2]	Not available	Not available	50-100 % by weight
N-Butyl Acetate *	CAS No: 123-86-4 EC-No: 204-658-1 Index-No: 607-025-00-1 REACH No: 01-2119485493-29	Flammable Liquids Category 3, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3; H226, H336 [2]	Not available	Not available	10-25 % by weight
Diacetone Alcohol	CAS No: 123-42-2 EC-No: 204-626-7 Index-No: 603-016-00-1 REACH No: Not available	Serious Eye Damage/Eye Irritation Category 2; H319 [2]	Eye Irrit. 2; H319: C ≥ 10 %	Not available	2.5-10 % by weight
Xylene *	CAS No: 1330-20-7 EC-No: 215-535-7 Index-No: 601-022-00-9 REACH No: 01-2119488216-32	Flammable Liquids Category 3, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2; H226, H312, H332, H315 [2]	*	Not available	2.5-10 % by weight

Cyclohexane *	CAS No: 110-82-7 EC-No: 203-806-2 Index-No: 601-017-00-1 REACH No: Not available	Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Aspiration Hazard Category 1, Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H225, H315, H336, H304, H400, H410 [2]	Not available	Not available	0.1-2.5 % by weight
Isophorone Diisocyanate Homopolymer	CAS No: 53880-05-0 EC-No: 500-125-5 Index-No: Not available REACH No: Not available	Sensitisation (Skin) Category 1; H317, EUH204 [3]	Not available	Not available	1-2.5 % by weight
Hydrocarbons, C9-12, Hydrotreated, Dearomatised [E]	CAS No: 93763-34-9 EC-No: 297-853-6 Index-No: 649-344-00-9 REACH No: 01-2119458049-33-	Flammable Liquids Category 3, Skin Corrosion/Irritation Category 2, Germ Cell Mutagenicity Category 1B, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Aspiration Hazard Category 1; H226, H315, H340, H336, H304 [1]	Not available	Not available	0.1-2.5 % by weight

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 remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation:	If fumes, aerosols 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. Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.
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.

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 simple esters:

Basic treatment:

Establish a patent airway with suction where necessary.
Watch for signs of respiratory insufficiency and assist ventilation as necessary.
Administer oxygen by non-rebreather mask at 10 to 15 l/min.
Monitor and treat, where necessary, for pulmonary oedema .
Monitor and treat, where necessary, for shock.
DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
Give activated charcoal.

Advanced treatment:

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
Positive-pressure ventilation using a bag-valve mask might be of use.
Monitor and treat, where necessary, for arrhythmias.
Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
Drug therapy should be considered for pulmonary oedema.
Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
Treat seizures with diazepam.
Proparacaine hydrochloride should be used to assist eye irrigation.

Emergency department:

Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph. Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
Consult a toxicologist as necessary.
BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Following acute or short term repeated exposures to Toluene:

Toluene is absorbed across the alveolar barrier, the blood/air mixture being 11.2/15.6 (at 37 degrees C.) The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1/3 except in adipose where the proportion is 8/10.
Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
Primary threat to life from ingestion and/or inhalation is respiratory failure.
Patients should be quickly evaluated for signs of respiratory distress (eg cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ <50 mm Hg or pCO₂ > 50 mm Hg) should be intubated.

Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial damage 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 (adrenaline) 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.

Lavage is indicated in patients who require decontamination; ensure use.

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
o-Cresol in urine	0.5 mg/L	End of shift	B
Hippuric acid in urine	1.6 g/g creatinine	End of shift	B, NS
Toluene in blood	0.05 mg/L	Prior to last shift of workweek	

NS: Non-specific determinant; also observed after exposure to other material.

B: Background levels occur in specimens collected from subjects NOT exposed.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Alcohol stable 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

5.3 Advice for fire-fighters

Firefighting:

Alert Fire Brigade and tell them location and nature of hazard.

May be violently or explosively reactive.

Wear breathing apparatus plus protective gloves.

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

and minor amounts of hydrogen cyanide

nitrogen oxides (NO_x)

other pyrolysis products typical of burning organic material.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur.

Burns with acrid black 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.
Control personal contact with the substance, by using protective equipment.

Major spills:

Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self-contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur.
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 breathing apparatus plus protective gloves.

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.
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.
Keep containers securely sealed.
Store in a cool, dry, well-ventilated area.
Store away from incompatible materials and foodstuff containers.

7.2 Conditions for safe storage, including any incompatibilities

Suitable container:

Lined metal can, lined metal pail/ can.
Plastic pail.
Polyliner drum.
Packing as recommended by manufacturer.
For low viscosity materials
Drums and jerricans must be of the non-removable head type.
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) and solids (between 15 C deg. and 40 deg C.):
Removable head packaging;

Cans with friction closures and low pressure tubes and cartridges may be used.

All inner and sole packaging's for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.

Storage incompatibility:

N-Butyl Acetate:

- Reacts with water on standing to form acetic acid and n-butyl alcohol.
- Reacts violently with strong oxidisers and potassium tert-butoxide.
- Is incompatible with caustics, strong acids and nitrates.
- Dissolves rubber, many plastics, resins and some coatings.

Diacetone Alcohol (DAA):

- Reacts violently with strong oxidisers.
- Decomposes on contact with strong acids or strong bases forming acetone and mesityl oxide.
- Reacts with alkali metals forming explosive hydrogen.
- Is incompatible with aliphatic amines, isocyanates acetaldehyde, alkanolamines, ammonia, benzoyl peroxide, chromic acid, chromium trioxide, dialkylzincs, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus pentasulfide, pyridine tangerine oil, triethylammonium, triisobutylaluminium.
- Attacks some forms of plastics, resins, and rubber.

NOTE: the commercial grade contains acetone.

Storage containers made from brass, bronze or lead may cause contamination.

Toluene:

- Reacts violently with strong oxidisers, bromine, bromine trifluoride, chlorine, hydrochloric acid/ sulfuric acid mixture, 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione, dinitrogen tetraoxide, fluorine, concentrated nitric acid, nitrogen dioxide, silver chloride, sulfur dichloride, uranium fluoride, vinyl acetate.
- Forms explosive mixtures with strong acids, strong oxidisers, silver perchlorate, tetranitromethane.
- Is incompatible with bis-toluenediazo oxide.
- Attacks some plastics, rubber and coatings.
- May generate electrostatic charges, due to low conductivity, on flow or agitation.

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.
- Esters react with acids to liberate heat along with alcohols and acids.
- Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.
- Heat is also generated by the interaction of esters with caustic solutions.
- Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.
- Avoid strong acids, bases.
- Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water. Upon treatment with an alcohol, an isocyanate forms a urethane linkage. If a di-isocyanate is treated with a compound containing two or more hydroxyl groups, such as a diol or a polyol, polymer chains are formed, which are known as polyurethanes.
- A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.

- The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, Rather than on a molar basis (J/g) be used in the assessment.
 - For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.
- BREHERICK: Handbook of Reactive Chemical Hazards, 4th Edition.

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

P5a: Flammable Liquids, P5b: Flammable Liquids, P5c: Flammable Liquids

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

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
Toluene: *	Dermal 384 mg/kg bw/day (Systemic, Chronic) Inhalation 192 mg/m³ (Systemic, Chronic) Inhalation 192 mg/m³ (Local, Chronic) Inhalation 384 mg/m³ (Systemic, Acute) Inhalation 384 mg/m³ (Local, Acute) Dermal 226 mg/kg bw/day (Systemic, Chronic) * Inhalation 56.5 mg/m³ (Systemic, Chronic) * Oral 8.13 mg/kg bw/day (Systemic, Chronic) * Inhalation 56.5 mg/m³ (Local, Chronic) * Inhalation 226 mg/m³ (Systemic, Acute) * Inhalation 226 mg/m³ (Local, Acute) *	0.68 mg/L (Water (Fresh)) 0.68 mg/L (Water - Intermittent release) 0.68 mg/L (Water (Marine)) 16.39 mg/kg sediment dw (Sediment (Fresh Water)) 16.39 mg/kg sediment dw (Sediment (Marine)) 2.89 mg/kg soil dw (Soil) 13.61 mg/L (STP)
N-Butyl Acetate: *	Dermal 7 mg/kg bw/day (Systemic, Chronic) Inhalation 48 mg/m³ (Systemic, Chronic) Inhalation 300 mg/m³ (Local, Chronic) Dermal 11 mg/kg bw/day (Systemic, Acute) Inhalation 600 mg/m³ (Systemic, Acute) Inhalation 600 mg/m³ (Local, Acute) Dermal 3.4 mg/kg bw/day (Systemic, Chronic) * Inhalation 12 mg/m³ (Systemic, Chronic) * Oral 2 mg/kg bw/day (Systemic, Chronic) * Inhalation 35.7 mg/m³ (Local, Chronic) * Dermal 6 mg/kg bw/day (Systemic, Acute) * Inhalation 300 mg/m³ (Systemic, Acute) * Oral 2 mg/kg bw/day (Systemic, Acute) * Inhalation 300 mg/m³ (Local, Acute) *	0.18 mg/L (Water (Fresh)) 0.018 mg/L (Water - Intermittent release) 0.36 mg/L (Water (Marine)) 0.981 mg/kg sediment dw (Sediment (Fresh Water)) 0.098 mg/kg sediment dw (Sediment (Marine)) 0.09 mg/kg soil dw (Soil) 35.6 mg/L (STP)
Diacetone Alcohol:	Dermal 467 mg/kg bw/day (Systemic, Chronic) Inhalation 32.6 mg/m³ (Systemic, Chronic) Inhalation 240 mg/m³ (Local, Acute) Dermal 167 mg/kg bw/day (Systemic, Chronic) * Inhalation 5.8 mg/m³ (Systemic, Chronic) * Oral 1.67 mg/kg bw/day (Systemic, Chronic) *	2 mg/L (Water (Fresh)) 0.2 mg/L (Water - Intermittent release) 1 mg/L (Water (Marine)) 7.4 mg/kg sediment dw (Sediment (Fresh Water)) 0.74 mg/kg sediment dw (Sediment (Marine)) 0.31 mg/kg soil dw (Soil) 10 mg/L (STP)
Xylene: *	Dermal 212 mg/kg bw/day (Systemic, Chronic) Inhalation 221 mg/m³ (Systemic, Chronic) Inhalation 221 mg/m³ (Local, Chronic) Inhalation 442 mg/m³ (Systemic, Acute) Inhalation 442 mg/m³ (Local, Acute) Dermal 125 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m³ (Systemic, Chronic) *	0.327 mg/L (Water (Fresh)) 0.327 mg/L (Water - Intermittent release) 0.327 mg/L (Water (Marine)) 12.46 mg/kg sediment dw (Sediment (Fresh Water)) 12.46 mg/kg sediment dw (Sediment (Marine)) 2.31 mg/kg soil dw (Soil)

	Oral 12.5 mg/kg bw/day (Systemic, Chronic) * Inhalation 65.3 mg/m³ (Local, Chronic) * Inhalation 260 mg/m³ (Systemic, Acute) * Inhalation 260 mg/m³ (Local, Acute) *	6.58 mg/L (STP)
Cyclohexane: *	Dermal 2 016 mg/kg bw/day (Systemic, Chronic) Inhalation 700 mg/m³ (Systemic, Chronic) Inhalation 700 mg/m³ (Local, Chronic) Inhalation 1 400 mg/m³ (Systemic, Acute) Inhalation 1 400 mg/m³ (Local, Acute) Dermal 1 186 mg/kg bw/day (Systemic, Chronic) * Inhalation 206 mg/m³ (Systemic, Chronic) * Oral 59.4 mg/kg bw/day (Systemic, Chronic) * Inhalation 206 mg/m³ (Local, Chronic) * Inhalation 412 mg/m³ (Systemic, Acute) * Inhalation 412 mg/m³ (Local, Acute) *	0.207 mg/L (Water (Fresh)) 0.207 mg/L (Water - Intermittent release) 0.207 mg/L (Water (Marine)) 16.68 mg/kg sediment dw (Sediment (Fresh Water)) 16.68 mg/kg sediment dw (Sediment (Marine)) 3.38 mg/kg soil dw (Soil) 3.24 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)	Toluene	Toluene	50 ppm / 192 mg/m3	384 mg/m3 / 100 ppm	Not available	Sk
UK Workplace Exposure Limits (WELs)	Toluene	Toluene	50 ppm / 191 mg/m3	384 mg/m3 / 100 ppm	Not available	Sk
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	N-Butyl acetate	N-Butyl acetate	550 ppm / 241 mg/m3	723 mg/m3 / 150 ppm	Not available	Not available
UK Workplace Exposure Limits (WELs)	N-Butyl Acetate	Butyl acetate	150 ppm / 724 mg/m3	966 mg/m3 / 200 ppm	Not available	Not available
UK Workplace Exposure Limits (WELs)	Diacetone Alcohol	4-Hydroxy-4methylpentan-2-one	50 ppm / 241 mg/m3	362 mg/m3 / 75 ppm	Not available	Not available
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)	cyclohexane	Cyclohexane	200 ppm / 700 mg/m3	Not available	Not available	Not available
UK Workplace Exposure Limits (WELs)	cyclohexane	Cyclohexane	100 ppm / 350 mg/m3	1050 mg/m3 / 300 ppm	Not available	Not available
UK Workplace Exposure Limits (WELs)	Isophorone Diisocyanate Homopolymer	Isocyanates, all (as -NCO) except Methyl Isocyanate	0.02 mg/m3	0.07 mg/m3	Not available	Sen
Europe ECHA Occupational exposure limits substance evaluations	Isophorone Diisocyanate Homopolymer	Not available	Not available	Not available	Not available	Not available

Alumasc Roofing reserves the right to amend this document without prior notice. Users are responsible for ensuring they are working from the current version of this document, available at www.alumascroofing.com/downloads. Downloaded copies are uncontrolled. Where an Alumasc Roofing project-specific specification is provided, it shall govern product selection and installation. Otherwise, users are responsible for determining product suitability for the intended application, project requirements, and site conditions.

European Union (EU) Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work - Annex I: List of Binding Occupational Exposure Limit Values	Isophorone Diisocyanate Homopolymer	Diisocyanates (measured as NCO)	0.006 mg/m ³	0.012 mg/m ³	Not Available	Substantial contribution to the total body burden via dermal exposure possible. The substance can cause sensitisation of the skin and of the respiratory tract. NCO refers to isocyanate functional groups of the diisocyanate compounds. A limit value of 10 µg NCO/m ³ in relation to a reference period of 8 hours and a short-term exposure limit value of 20 µg NCO/m ³ shall apply until 31 December 2028.
--	-------------------------------------	---------------------------------	-------------------------	-------------------------	---------------	--

Ingredient	Original IDLH	Revised IDLH
Toluene	500 ppm	Not available
N-Butyl Acetate	1,700 ppm	Not available
Diacetone Alcohol	Not available	Not available
Xylene	900 ppm	Not available
Cyclohexane	Not available	Not available
Isophorone Diisocyanate Homopolymer	Not available	Not available
Hydrocarbons, C9-12, Hydrotreated, Dearomatised	Not available	Not available

Occupational exposure banding:

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Hydrocarbons, C9-12, Hydrotreated, Dearomatised	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

8.2.1. Appropriate engineering controls:	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 side shields. Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection:	See Hand protection below
Hands/feet protection:	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. For esters: Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials. 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. Personal hygiene is a key element of effective hand care. Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves. Protective gloves and overalls should be worn as specified in the appropriate national standard. Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated. NOTE: Natural rubber, neoprene, PVC can be affected by isocyanates
Body protection:	See Other Protection below.
Other protection:	Overalls. Eyewash unit. Barrier cream. Skin cleansing cream.

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
-------------------------	--

8.2.3 Environmental exposure controls

See Section 12.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Important health, safety and environmental information

Appearance:	Yellow	Relative density (Water =1):	0.9
Physical state:	Liquid	Partition coefficient n-octanol / water:	Not available
Odour:	Not available	Auto-ignition temperature (°C):	370(n-butyl acetate)
Odour threshold:	Not available	Decomposition: temperature (°C):	Not available
pH (as supplied):	Not available	Viscosity (cSt):	Kinematic 10 s @ 20oC
Melting point/freezing point (°C):	Not available	Molecular weight (g/mol):	Not available
Initial boiling point and boiling range (°C):	81°C (Cyclohexane) -18°C	Taste{	Not available
Flash point (°C):	(Cyclohexane)	Explosive properties:	Highly flammable liquid and vapour
Evaporation Rate [kg/(s m²)]:	Not available	Oxidising properties:	Not available
Flammability:	HIGHLY FLAMMABLE	Surface Tension (dyn/cm or mN/m):	Not available
Upper Explosive Limit (%):	7.5% Vol (N-Butyl Acetate)	Volatile Component (%vol):	Not available
Lower Explosive Limit (%):	1.2% Vol (N-Butyl Acetate, Toluene)	Gas group:	Not available
Vapour pressure (kPa):	29 hPa (Toluene)	pH as a solution (1%)	Not available
Solubility in water:	Immiscible	VOC g/L:	Not available
Vapour density (Air = 1):	Not available	Nanoform Particle Characteristics:	Not available
Nanoform Solubility:	Not available		
Particle Size:	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 toxicological effects

Inhaled:	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. 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. 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. The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur. Diacetone alcohol is primarily a sedative, used to stop convulsions. When inhaled, it may cause sleep after a period of restlessness, excitability, and irritation. Symptoms of intoxication are rapidly decreasing breathing, marked fall in blood pressure, muscle relaxation and absence of conjunctival reflexes. The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting. Pulmonary sensitisation may produce asthmatic reactions ranging from minor breathing difficulties to severe allergic attacks; this may occur following a single acute exposure or may develop without warning for several hours after exposure. 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. 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
Ingestion:	The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum. At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver). At sufficiently high doses the material may be nephrotoxic (i.e. poisonous to the kidney). Diacetone alcohol produces marked respiratory depression and unconsciousness. It may cause destruction of the red cells, liver and kidney damage and anaemia.

	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC 13733) Considered an unlikely route of entry in commercial/industrial environments. The liquid may produce gastrointestinal discomfort and may be harmful if swallowed. 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.
Skin Contact:	The material may accentuate any pre-existing dermatitis condition 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 damage the health of the individual; systemic effects may result following absorption. 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.
Eye:	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. 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.
Chronic:	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 Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Intentional abuse (glue sniffing) or occupational exposure to toluene can result in chronic habituation. Chronic abuse has caused incoordination, tremors of the extremities (due to widespread cerebrum withering), headache, abnormal speech, temporary memory loss, convulsions, coma, drowsiness, reduced colour perception, blindness, nystagmus (rapid, involuntary eye movements), hearing loss leading to deafness and mild dementia. Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components. This is corroborated by the results from an MDI inhalation study. There has been some 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. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

Caltech FCP SP Primer:

Toxicity	Irritation
Not available	Not available

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]

N-Butyl Acetate:

Toxicity	Irritation
Dermal (rabbit) LD50: 3200 mg/kg[2]	Eye (Human): 300ppm
Inhalation (Rat) LC50: 0.74 mg/l4h[2]	Eye (Rodent - rabbit): 100mg - Moderate
Oral (Rabbit) LD50: 3200 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Skin (Rodent - rabbit): 500mg/24H - Moderate
	Skin: no adverse effect observed (not irritating)[1]

Diacetone Alcohol:

Toxicity	Irritation
Dermal (rabbit) LD50: 13500 mg/kg[2]	Eye (Human): 100ppm/15M
Oral (Rat) LD50: 2520 mg/kg[2]	Eye (Rodent - rabbit): 100uL/24H - Severe
	Eye (Rodent - rabbit): 20mg - Severe
	Eye: adverse effect observed (irritating)[1]
	Skin (Rodent - rabbit): 10mg/24H
	Skin (Rodent - rabbit): 500mg - Mild
	Skin: adverse effect observed (irritating)[1]
	Skin: no adverse effect observed (not 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]

Cyclohexane:

Toxicity	Irritation
Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye (Rodent - rabbit): 0.1mL
Inhalation (Rat) LC50: >5540 ppm4h[1]	Eye (Rodent - rabbit): 0.1mL - Severe
Oral (Rat) LD50: 12705 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Skin (Rodent - rabbit): 1548mg/2D (intermittent)
	Skin: adverse effect observed (irritating)[1]
	Skin: no adverse effect observed (not irritating)[1]

isophorone diisocyanate homopolymer

Toxicity	Irritation
Inhalation (Rat) LC50: 3.538 mg/L4h[1]	Not Available
Oral (Rat) LD50: 5000 mg/kg[1]	

Hydrocarbons, C9-12, Hydrotreated, Dearomatised:

Toxicity	Irritation
Not available	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.

Caltech FCP SP Primer:	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 hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. 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.
Diacetone Alcohol:	Inhalation (human) TClO: 400 ppm resp.effect Diacetone alcohol (DAA) is irritating to the skin and eyes, but the oral lethal dose is more than 4000mg/kg. Animal testing showed some effects to the kidney and liver. It has not been shown to cause reproductive or developmental toxicity or genetic damage, but it may reduce fertility.
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.
Cyclohexane:	Bacteria mutagen
Isophorone Diisocyanate Homopolymer:	Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.
Hydrocarbons, C9-12, Hydrotreated, Dearomatised:	Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cycloparaffins. The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. Kerosene may produce varying ranges of skin irritation, and a reversible eye irritation (if eyes are washed). Skin may be cracked or flaky and/or leathery, with crusts and/or hair loss. It may worsen skin cancers. There may also be loss of weight, discharge from the nose, excessive tiredness, and wheezing.
Caltech FCP SP Primer & Isophorone Diisocyanate Homopolymer :	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.
Caltech FCP SP Primer & N-Butyl Acetate:	Generally, linear and branched-chain alkyl esters are hydrolysed to their component alcohols and carboxylic acids in the intestinal tract, blood and most tissues throughout the body. Following hydrolysis the component alcohols and carboxylic acids are metabolized Oral acute toxicity studies have been reported for 51 of the 67 esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids. The very low oral acute toxicity of this group of esters is demonstrated by oral LD50 values greater than 1850 mg/kg bw Genotoxicity studies have been performed in vitro using the following esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids: methyl acetate, butyl acetate,

	butyl stearate and the structurally related isoamyl formate and demonstrates that these substances are not genotoxic. The JEFCA Committee concluded that the substances in this group would not present safety concerns at the current levels of intake the esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids are generally used as flavouring substances up to average maximum levels of 200 mg/kg. Higher levels of use (up to 3000 mg/kg) are permitted in food categories such as chewing gum and hard candy.
Caltech FCP SP Primer & 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.
Toluene & N-Butyl Acetate & Diacetone Alcohol & Xylene:	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.
N-Butyl Acetate & Diacetone Alcohol & Xylene:	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Diacetone Alcohol & Isophorone Diisocyanate Homopolymer & Hydrocarbons, C9-12, Hydrotreated, Dearomatised:	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.

11.2 Additional information

11.2.1 Endocrine disruption 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

Caltech FCP Universal Primer Accelerator:

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

Toluene:

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

N-Butyl Acetate:

End point	Test duration (Hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	246mg/l	2
EC50(ECx)	96h	Fish	18mg/l	2
EC50	48h	Crustacea	32mg/l	1
LC50	96h	Fish	17-19mg/L	4

Diacetone Alcohol:

End point	Test duration (Hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>1000mg/l	2
NOEC(ECx)	504h	Crustacea	100mg/l	2
EC50	48h	Crustacea	>1000mg/l	2
LC50	96h	Fish	>100mg/l	2

Xylene:

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

Cyclohexane:

End point	Test duration (Hr)	Species	Value	Source
EC50	96h	Algae or other aquatic plants	2.17mg/l	2
BCF	1344h	Fish	31-102	7
EC50	72h	Algae or other aquatic plants	3.428mg/l	2
EC50(ECx)	48h	Crustacea	0.9mg/l	2
EC50	48h	Crustacea	0.9mg/l	2
LC50	96h	Fish	4.53mg/l	2

Isophorone Diisocyanate Homopolymer:

End point	Test duration (Hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>3.1mg/l	2
EC50	48h	Crustacea	>3.36mg/l	2
NOEC(ECx)	816h	Fish	>=0.033mg/l	2
LC50	96h	Fish	>1.51mg/l	2

Hydrocarbons, C9-12, Hydrotreated, Dearomatised:

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

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

Harmful 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.

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 Diacetone Alcohol: log Kow: -0.14 @ 25 C; BOD 5: 0.07,3%; COD: 2.11,95%; ThOD: 2.21.

Environmental Fate: If diacetone alcohol is released into air and soil, it is unlikely to be distributed in other compartments.

Diacetone alcohol is readily biodegradable.

Atmospheric Fate: Direct photodegradation is not expected.

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.

For Toluene:

log Kow : 2.1-3;

log Koc : 1.12-2.85;

Koc : 37-260;

log Kom : 1.39-2.89;

Half-life (hr) air : 2.4-104;

Half-life (hr) H₂O surface water : 5.55-528;

Half-life (hr) H₂O ground : 168-2628;

Half-life (hr) soil : <48-240;

Henry's Pa m³/mol : 518-694;

Henry's atm m³/mol : 5.94;

E-03BOD 5 0.86-2.12, 5%COD - 0.7-2.52,21-27%;

ThOD - 3.13 ; BCF - 1.67-380;

log BCF - 0.22-3.28.

Atmospheric Fate: The majority of toluene evaporates to the atmosphere from the water and soil. The main degradation pathway for toluene in the atmosphere is reaction with photochemically produced hydroxyl radicals. The estimated atmospheric half life for toluene is about 13 hours.

For n-Butyl Acetate:

Koc: ~200;

log Kow: 1.78;

Half-life (hr) air: 144;

Half-life (hr) H₂O surface water: 178 - 27156;

Henry's atm: m³/mol: 3.20E-04

BOD 5 if unstated: 0.15-1.02,7%;

COD: 78%;

ThOD: 2.207;

BCF : 4-14.

Environmental Fate: Terrestrial Fate - Butyl acetate is expected to have moderate mobility in soil. Volatilization of n-butyl acetate is expected from moist and dry soil surfaces. n-Butyl acetate may biodegrade in soil.

DO NOT discharge into sewer or waterways.

12.2 Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Toluene	HIGH (Half-life = 28 days)	LOW (Half-life = 4.33 days)
N-Butyl Acetate	LOW	LOW
Diacetone Alcohol	HIGH	HIGH
Xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
Cyclohexane	HIGH (Half-life = 360 days)	LOW (Half-life = 3.63 days)
Isophorone Diisocyanate Homopolymer	HIGH	HIGH

12.3 Bioaccumulation potential

Ingredient	Bioaccumulation
toluene	LOW (BCF = 90)
n-butyl acetate	LOW (BCF = 14)
diacetone alcohol	LOW (LogKOW = -0.14)
xylene	MEDIUM (BCF = 740)
cyclohexane	LOW (BCF = 242)
isophorone diisocyanate homopolymer	MEDIUM (LogKOW = 4.2608)

12.4 Mobility in soil

Ingredient	Mobility
toluene	LOW (Log KOC = 268)
n-butyl acetate	LOW (Log KOC = 20.86)
diacetone alcohol	HIGH (Log KOC = 1)
cyclohexane	LOW (Log KOC = 165.5)
isophorone diisocyanate homopolymer	LOW (Log KOC = 19770)

12.5 Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not available	Not available	Not available
PBT	✗	✗	✗
vPvB	✗	✗	✗

PBT Criteria fulfilled?	No
vPvB	No

12.6 Endocrine Disruption Properties

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

12.7 Other adverse effects

No evidence of endocrine disrupting 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.

Further information available via:	https://www.alumascroofing.com/downloads/disposal-guides/ 
------------------------------------	--

14. TRANSPORT INFORMATION

Labels required:



Marine Pollutant: No.

Hazchem: 3YE.

Land transport (ADR):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL (including paint thinning and reducing compound)
14.3 Transport hazard class(es)	Class: 3 Subrisk: Not applicable
14.4 Packing group	II Note:
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	Hazard identification (Kemler): 33 Classification code: F1 Hazard label: 3 Special provisions: 163 367 640C 650 640D Limited quantity: 5 L Tunnel restriction code: D/E

Air transport (ICAO-IATA/DGR):

14.1 UN number	1263
14.2 UN proper shipping name	Paint related material (including paint thinning or reducing compounds)
14.3 Transport hazard class(es)	ICAO/IATA class: 3 ICAO/IATA subrisk: Not applicable ERG code: 3 L
14.4 Packing group	II
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	Special provisions: A3 A72 A192 Cargo only packing instruction: 364 Cargo only maximum qty/pack: 60 L Passenger and cargo packing instruction: 353 Passenger and cargo maximum qty/pack: 5 L Passenger and cargo limited qty packing instructions: Y341 Passenger and cargo limited maximum qty/pack: 1 L

Sea transport (IMDG-Code/GGVSee):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL (including paint thinning and reducing compound)
14.3 Transport hazard class(es)	IMDG class: 3 IMDG subrisk: Not applicable
14.4 Packing group	II
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	EMS number: F-E, S-E Special provisions: 163 367 Limited quantities: 5 L

Inland waterways transport (ADN):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL (including paint thinning and reducing compound)
14.3 Transport hazard class(es)	3 Not applicable
14.4 Packing group	II
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	Classification code: F1 Special provisions: 163; 367; 640C; 640D; 650 Limited quantity: 5 L Equipment required: PP, EX, A Fire cones numbers: 1

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
Toluene	Not available
N-Butyl Acetate	Not available
Diacetone Alcohol	Not available
Xylene	Not available
Cyclohexane	Not available
Isophorone Diisocyanate Homopolymer	Not available
Hydrocarbons, C9-12, Hydrotreated, Dearomatised	Not available

14.7.3. Transport in bulk in accordance with the ICG Code

Product Name	Ship Type
Toluene	Not available
N-Butyl Acetate	Not available
Diacetone Alcohol	Not available
Xylene	Not available
Cyclohexane	Not available
Isophorone Diisocyanate Homopolymer	Not available
Hydrocarbons, C9-12, Hydrotreated, Dearomatised	Not available

15. REGULATORY INFORMATION

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

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
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

N-Butyl Acetate is found on the following regulatory lists:

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
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

Diacetone Alcohol is found on the following regulatory lists:

Europe EC Inventory
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

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
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

cyclohexane is found on the following regulatory lists:

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
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

Isophorone Diisocyanate Homopolymer is found on the following regulatory lists:

Europe EC Inventory
European Union (EU) Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work - Annex I: List of Binding Occupational Exposure Limit Values

Hydrocarbons, C9-12, Hydrotreated, Dearomatised is found on the following regulatory lists:

Chemical Footprint Project - Chemicals of High Concern List
EU REACH Regulation (EC) No 1907/2006 - Annex XVII (Appendix 2) Carcinogens: Category 1 B
EU REACH Regulation (EC) No 1907/2006 - Annex XVII (Appendix 4) Germ cell mutagens: Category 1 B
Europe EC Inventory
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

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

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
toluene	108-88-3	601-021-00-3	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Repr. 2; STOT RE 2	GHS08; GHS02; Dgr	H225; H304; H315; H336; H361; H373
2	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Eye Irrit. 2; Aquatic Chronic 2; STOT SE 3; Repr. 1A; Acute Tox. 4; STOT RE 1; Acute Tox. 4; STOT SE 1; Skin Sens. 1; Muta. 1B; Carc. 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

Ingredient	CAS number	Index No	ECHA Dossier
n-butyl acetate	123-86-4	607-025-00-1	01-2119485493-29

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3; STOT SE 3	GHS02; GHS07; Wng	H226; H336
2	STOT SE 3; STOT SE 3; Aquatic Chronic 1; Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2; Acute Tox. 2; Acute Tox. 4; Acute Tox. 4	GHS01; Dgr; GHS06; GHS08	H336; H319; H225; H315; H330; H335; H317; H412

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

Ingredient	CAS number	Index No	ECHA Dossier
diacetone alcohol	123-42-2	603-016-00-1	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	STOT SE 3; Repr. 2; Skin Irrit. 2; STOT SE 1; STOT RE 1; Flam. Liq. 2; STOT SE 3; Eye Dam. 1	GHS08; GHS02; Dgr; GHS05	H335; H361d; H315; H336; H373; H370; H225; H318

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

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

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Acute Tox. 4	GHS07; GHS02; Wng	H226; H312; H315; H332
2	Acute Tox. 4; Skin Irrit. 2; Acute Tox. 4; Asp. Tox. 1; STOT SE 3; Flam. Liq. 2; STOT SE 3; Repr. 1B; Aquatic Chronic 2; STOT SE 1; STOT RE 1; Acute Tox. 4; Lact.; Aquatic Acute 1; Skin Sens. 1; Eye Dam. 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
cyclohexane	110-82-7	601-017-00-1	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Acute 1	GHS08; GHS02; GHS09; Dgr	H225; H304; H315; H336; H400; H410
2	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; STOT SE 3; Eye Irrit. 2; Acute Tox. 4; Repr. 2; STOT SE 2	GHS08; GHS09; Dgr; GHS01	H225; H304; H315; H336; H400; H410; H319; H332; H335; H361; H371

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

Ingredient	CAS number	Index No	ECHA Dossier
isophorone diisocyanate homopolymer	53880-05-0	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Sens. 1	GHS07; Wng	H317
2	Skin Sens. 1; Resp. Sens. 1; STOT SE 3; Skin Irrit. 2; Acute; Tox. 4; Flam. Liq. 3	GHS08; Dgr; GHS02; GHS09	H317; H334; H335; H315; H332; H226; H336; H411

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	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Canada - DSL	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Canada - NDSL	No (Toluene; N-Butyl Acetate; Diacetone Alcohol; Xylene; Cyclohexane; Isophorone Diisocyanate Homopolymer; Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
China - IECSC	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (Isophorone Diisocyanate Homopolymer; Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Korea - KECI	Yes
New Zealand - NZIoC	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Philippines - PICCS	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
USA - TSCA	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Taiwan - TCSI	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Mexico - INSQ	No (Isophorone Diisocyanate Homopolymer; Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Vietnam - NCI	No (Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Russia - FBEPH	No (Isophorone Diisocyanate Homopolymer; Hydrocarbons, C9-12, Hydrotreated, Dearomatised)
Legend:	Yes = All CAS declared ingredients are on the inventory. No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

16. OTHER INFORMATION

Full text risk and hazard codes:

H226Flammable liquid and vapour.
H228Flammable solid.
H301Toxic if swallowed.
H302Harmful if swallowed.
H304May be fatal if swallowed and enters airways.
H312Harmful in contact with skin.
H318Causes serious eye damage.
H330Fatal if inhaled.

H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H362 May cause harm to breast-fed children.
H370 Causes damage to organs.
H371 May cause damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

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. 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
AII: 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 2, H225	On basis of test data
Skin Corrosion/Irritation Category 2, H315	Calculation method
Sensitisation (Skin) Category 1, H317	Calculation method
Serious Eye Damage/Eye Irritation Category 2, H319	Minimum classification
Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, H336	Calculation method
Reproductive Toxicity Category 2, H361d	Calculation method
Specific Target Organ Toxicity - Repeated Exposure Category 2, H373	Calculation method
Hazardous to the Aquatic Environment Long-Term Hazard Category 3, H412	Expert judgement
, EUH204	Calculation method

SDS version summary:

Version	Date of Update	Section Updated
1.1	14/06/2023	Template change
2.0	27/05/2025	Section 13 update
3.0	15/06/2026	Update to Section 2, 4.1, 7.1, 7.2, 8.1, 11.1, 11.2, 12.1, 15.1

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.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.