SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

KONGCRETE PART A

SECTION 1: Identification of the substance/mixture and of the company/undertaking	
1.1 Product Identifier	
Product name	KONGCRETE PART A

1.3 Details of the supplier of the safety data sheet	
Company	Kongcrete Ltd
Address	Calder Island Way Calder island Wakefield West Yorkshire WF2 7AW
Telephone	+44 (0)845 486 1234
Fax	+44 (0)845 486 2234

SECTION 2: Hazards identification	
2.1 Classification of the substance or mixture	
Main hazards	No significant hazard

SECTION 3: Composition/information on ingredients						
3.2 Mixtures						
67/548/EEC / 1999/45/EC						
Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
Tris(2-chloro-1methylethyl) phosphate		13674-84-5	237-158-7		0 - 10%	Xn; R22

SECTION 4: First aid measures	
4.1 Description of first aid measures	
Inhalation	Irritating to respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Move the exposed person to fresh air. Seek medical attention.
Eye contact	Irritating to eye. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.
Skin Contact	Irritating to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.
Ingestion	Ingestion may cause nausea and vomiting. Seek medical attention if irritation or symptoms persist. DO NOT INDUCE VOMITING.

SECTION 5: Fire fighting measures	
5.1 Extinguishing media	
	Carbon dioxide (CO2).
5.2 Special hazards arising from the substance or mixture	
	Burning produces irritating, toxic and obnoxious fumes.

5.3 Advice for fire fighters	
	Wear suitable respiratory equipment when necessary.

SECTION 6: Accidental release measures	
6.1 Personal precautions, protective equipment and emergency procedures	
	Ensure adequate ventilation of the working area. Wear suitable protective equipment.

6.2 Environmental precautions	
	Do not allow product to enter drains. Prevent further spillage if safe.

6.3 Methods and material for containment and cleaning up	
	Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

SECTION 7: Handling and storage	
7.1 Precautions for safe handling	
	Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.

7.2 Conditions for safe storage, including any incompatibilities	
	Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers.

SECTION 8: Exposure controls/personal protection	
8.2 Exposure controls	
8.2.1 Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2 Individual Protection measures	Wear chemical protective clothing.
Eye / Face protection	Approved safety goggles.
Skin protection – Hand protection	Chemical resistant gloves (PVC)
Respiratory protection	Wear Suitable respiratory equipment.

SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
State	Liquid
Colour	Clear
Odour	Characteristic
Flash point	65C
Viscosity	424cPs

9.2 Other information	
Specific gravity	1.07g/cm3

SECTION 10: Stability and reactivity	
10.2 Chemical stability	
	Stable under normal conditions.

SECTION 11: Toxicological information

SECTION 12: Ecological information	
Further information	
	No data is available on this product.

SECTION 13: Disposal considerations	
General information	
	Dispose of in compliance with all local and national regulations.

SECTION 14: Transport information	
Further information	
	The product is not classified as dangerous for carriage.

SECTION 15: Regulatory information	
Labelling	
	The product is classified in accordance with 67/548/EEC.
Risk phrases	No significant hazard.

SECTION 16: Other information	
Other information	
Text of risk phrases in section 3	R10- Flammable R22- Harmful if swallowed. R34- Causes burns.
Further information	
	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

KONGCRETE PART B

SECTION 1: Identification of the substance/mixture and of the company/undertaking	
1.1 Product identifier	
CAS-No.	9016-87-9
Product code	None
Synonyms	Polymeric MDI (PMDI)

1.2 Relevant identified uses of the substance or mixture and uses advised against	
Use of the substance/preparation	Raw material Binding agent Chemical intermediate Component for polyurethane products

1.3 Details of the supplier of the safety data sheet	
Company	Kongcrete Ltd
Address	Calder Island Way Calder island Wakefield West Yorkshire WF2 7AW
Telephone	+44 (0)845 486 1234
Fax	+44 (0)845 486 2234

SECTION 2: Hazards identification	
2.1 Classification of the substance or mixture	
Classification according to regulation (EC) No. 1272/2008 (GHS/CLP)	Acute toxicity, Inhale, Vapours, Cat. 4, H332 Skin corrosion/irritation, Cat. 2, H315 Serious eye damage/eye irritation, Cat. 2, H319 Carcinogenicity, Cat. 2, H351 Specific target organ toxicity (single exposure, inhalation), Cat. 3, H335 Respiratory Sensitisation, Cat. 1, H334 Skin Sensitisation, Cat. 1 H317 Specific target organ toxicity (repeated exposure, inhalation), Cat. 2 H313inh Contains isocyanates. May produce an allergic reaction. Contains Isocyanates. See information supplied by manufacturer.
Classification according to EU directives 67/548/EEC or 1999/45/EC	Xn; R20 Carc. Cat 3; R40 Xi; R36/37/38 R42/43 Xn; R48/20
Additional information	For the full text of the phrases mentioned in this Section, see Section 16.

2.2 Label elements	
	
Signal Word	DANGER!
Hazard statements	H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H332: Harmful if inhaled. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335: May cause respiratory irritation. H351: Suspected of causing cancer. H373inh: May cause damage to organs through prolonged or repeated exposure if inhaled.
Precautionary statements	P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280: Wear protective gloves/ protective clothing/ eye protection/ face protection. P285: In case of inadequate ventilation wear respiratory protection. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove Contact lenses, if present and easy to do. Continue rinsing. P309+P311: IF exposed of if you feel unwell: Call a POISOM CENTRE or doctor/ physician.
Additional advice	Contains isocyanates. May produce an allergic reaction. Contains isocyanates. See information supplied by the manufacturer.
GHS product identifier	Diphenylmethane diisocyanate, isomers and homologues.
Classification and labelling according to directive 67/548/EEC	
	Xn- Harmful.
R-phrase(s)	R20: Harmful by inhalation. R40: Limited evidence of a carcinogenic effect. R36/37/38: Irritating to eyes, respiratory system and skin. R42/43: May cause sensitisation by inhalation and skin contact. R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
S-Phrase(s)	S23: Do not breathe vapour/ gas/ fumes/ spray. S36/37: Wear suitable protective clothing and gloves. S45: In case of accident or if you feel unwell, seek medical advice immediately (show label were possible). S38: In case of insufficient ventilation, wear suitable respiratory equipment.
Additional advice	Contains isocyanates. See information supplied by the manufacturer.
Hazardous components which must be listed on the label	Diphenylmethane diisocyanate, isomers and homologues, CAS- No. 9016-87-9.

2.3 Other Hazards	
	No information available.

SECTION 3: Composition/information on ingredients					
Components		CLP Classification	DSD/DPD Classification	CAS	REACH No.
Diphenylmethane diisocyanate, isomers and homologues	100%	Eye Irrit. 2 H319, Car. 2 H351, Resp. Sens. 1 H334, STOT RE 2 H373i, Acute Tox. 4 H332, Skin Sens. 1 H317. Skin Irrit. 2 H315, STOT SE 3 H335	Xn; R-20-40-36/37/38-42/43-48/20	9016-87-9	

For the full text of the phrases mentioned in the Section, see Section 16.

Hazardous impurities	None known.

SECTION 4: First aid measures	
4.1 Description of first aid measures	
Inhalation	Move to fresh air. Consult physician after significant exposure. Oxygen or artificial respiration if needed.
Skin contact	Remove contaminated clothes and shoes. Wash off immediately with plenty of water. If skin irritation persists, consult a specialist.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Ingestion	Call a physician immediately. Clean mouth with water and drink plenty of water afterwards. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed	
	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Increased pulse rate. The product causes irritation of eyes, skin and mucous membranes. Symptoms may be delayed.

4.3 Indication of any immediate medical attention and special treatment needed	
	Artificial respiration and/or oxygen may be necessary.

SECTION 5: Fire fighting measures	
5.1 Extinguishing media	
Suitable extinguishing media	Use dry chemical, CO2, water spray or alcohol foam.
Extinguishing media which must not be used for safety reasons	None.

5.2 Special hazards arising from the substance or mixture	
	On heating: release of toxic/corrosive/combustible gases/ vapours (nitrous vapours, hydrogen cyanide, and carbon monoxide – carbon dioxide) Isocyanates. Burning produces irritant fumes. Risk of explosion if heated under confinement.

5.3 Advice for fire fighters	
Special protective equipment for fire fighters	Standard procedure for chemical fires. In the event of fire, wear self contained breathing apparatus. Safety glasses. Wear fire/ flame resistant/ retardant clothing.
Specific methods	Water mist may be used to cool containers. In the event of a fire, cool tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
Advice for non-emergency personnel	Evacuate personnel to safe areas. Do not breathe vapours or spray mist. Avoid contact with skin and eyes. Keep people away from unwind of spill/leak.
Advice for emergency responders	Handle in accordance with good industrial hygiene and safety practice. In the case of a vapour formation use a respirator with an approved filter. In the case of dust or aerosol formation use respirator with an approved filter.

6.2 Environmental precautions	
	Prevent product from entering drains. Do not allow material to contaminate ground water systems. Advise water authority if spillage has entered the water course or drainage system. Contain and cover spilled substance with dry sand or earth or other suitable dry material, using shovel or broom. Keep in suitable and closed containers for disposal.

6.3 Methods and material for containment and cleaning up	
	Soak up with inert absorbent material. Treat with neutralizing solution: mixture of water(80%), with non-ionic surfactant tergitol TMN-10 (20%)- Water (90%), concentrated ammonia (3-8%) and detergent(2%). Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape.

6.4 Reference to other sections	
	See chapter 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling	
	Do not breathe dust/ fume/ gas/ mist/ vapour/ spray. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including and incompatibilities	
	Keep container tightly closed in a dry and well-ventilated place. Avoid moisture absorption and contamination. Keep at temperatures between 20 and 25 ˚C.

7.3 Specific end use(s)	
	Chemical intermediate. Component for polyurethane products.

SECTION 8: Exposure controls/personal protection	
8.1 Control parameters	
Exposure limit(s)	No data is available on the product itself.

8.2 Exposure controls	
Occupational exposure controls	Avoid contact with skin, eyes and clothing. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Personal protection equipment	
Respiratory protection	In the case of mist, spray or aerosol exposure wear suitable respiratory protection and protective suit. Breathing apparatus with filter. Half mask with a particular filter P2 (EN 143). Respirator with combination filter for vapour/particulate.
Hand protection	The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN374 derived from it. Gloves made of Nitril. Gloves made of Butyl. Gloves made of Chloroprene.
Eye protection	Safety glasses. Safety glasses with side shields conforming to EN166. Goggles
Skin and body protection	Safety shoes. Long sleeved clothing. Lightweight protective clothing. Lab coat.
Thermal hazards	Risk of explosion if heated under confinement. Decomposes on heating. On heating: release of corrosive/combustible gases/vapours (nitrous vapours, carbon monoxide – carbon dioxide) Isocyanates.
Environmental exposure controls	Should not be released into the environment. For environmental protection remove and wash all contaminated protective equipment before re-use.

SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
Form	Viscous. Liquid.
Colour	Dark Brown.
Odour	Musty. Slight.
Odour threshold	No information available.
pH	Not applicable
Melting point/range:	No information available
Boiling point/range:	Decomposes before boiling
Flash point:	>=230°C
Evaporation rate:	No information available
Flammability:	No information available
Explosion limits:	No information available
Vapour pressure:	10-4mm Hg at 40°C
Vapour density:	No information available
Relative density:	1.21 – 1.25 at 25°C
Water solubility:	Insoluble in water
Partition coefficient (n-octanol/water)	Reacts with water
Autoignition temperature:	No information available
Decomposition temperature:	>230°C (literature)
Viscosity:	150 – 250 mPa.s
Combustion/explosion hazards:	Not explosive
Oxidising properties:	None

SECTION 10: Stability and reactivity	
10.1 Reactivity	Reacts with water. Exothermic reaction with strong acids. Exothermic reaction with amines and alkohols.
10.2 Chemical stability	Stable at normal conditions
10.3 Possibility of hazardous reactions	Hazardous polymerisation may occur. Container can be pressurised by carbon dioxide due to reaction with humid air and/or water.
10.4 Conditions to avoid	Decomposition under influence of moisture is highly accelerated by heating. Keep from any possible contact with water. Direct sources of heat.
10.5 Incompatible materials	Strong bases. Water. Amines. Alcohols. Copper aluminium.
10.6 Hazardous decomposition products	On heating: release of corrosive/combustible gases/vapours (nitrous vapours, carbon monoxide – carbon dioxide) Isocyanates.

SECTION 11: Toxicology information	
11.1 Information on toxicology effects	
Acute toxicity	LD50/oral/rat>10000 mg/kg. LC50/inhalation/rat>0.49 mg/l 4h (Wistar male/female. LD50/dermal/rabbit>9400 mg/kg (according OECD 402). LD50/oral/rat>2000 mg/kg. **Polymethylene polyphenylene isocyanate (CAS 9016-87-9)** Dermal LD50 Rabbit 9400 mg/kg Inhalation LC50 Rat 490 mgm3 4h Oral LD50 Rat g/kg
Skin corrosion/irritation	Irritation to skin and mucous membranes
Serious eye damage/eye irritation	Moderate eye irritation
Respiratory/Skin sensitisation	May cause sensitisation by inhalation and skin contact. Animal studies have shown that skin contacts with isocyanates may play a role in respiratory sensitisation.
Carcinogenicity	NOAEC (No observable adverse effect concentration) – rat inhalation: 1mg/m3. LOAEC (Lowest observable adverse effect concentration) – rat inhalation:1mg/m3. Lung tumours have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6mg/m3) for their lifetime. The relevance for humans is not established.
Germ cell mutagenicity	Did not show mutagenic effects in animal experiments.
Reproductive toxicity	Did not show teratogenic effects in animal experimants.
Specific target organ toxicity (single exposure)	May cause respiratory tract irratation
Specific target organ toxicity (repeated exposure)	May cause damage to organs (Bronchiole) through prolonged or repeated exposure.
Aspiration hazard	No data available.
Human experience	No data available.

SECTION 12: Ecological information	
12.1 Toxicity	This product has no known eco-toxicological effects. Hydrolyses to form water insoluble compounds. LC50/96h/fish>1000mg/l. EC50/24hdaphnia=1000mg/l.
12.2 Persistence and degradability	According to the results of tests of biodegradability this product is really not biodegradable. Hydrolyses to form water insoluble compounds
12.3 Bioaccumulative potential	Bioconcentration factor (BCF): 200. Does not accumulate in organisms.
12.4 Mobility in soil	Reacts with water. Hydrolyses to form water insoluble compounds. Immobile.
12.5 Results of PBT and vPvB assessment	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)
12.6 Other adverse effects	No information available.

SECTION 13: Disposal considerations	
13.1 Waste treatment methods	
Waste from residues/unused products	Dispose of as hazardous waste in compliance with local and national regulations.Can be incinerated, when in compliance with local regulations. Offer surplus and non-recyclable solutions to an established disposal company.
Contaminated packaging	Empty remaining contents. Can be offered for recycling, reconditioning or puncture.

SECTION 14: Transport information	
ADR/RID	Not required.
IMO	Not required.
ICAO	Not required.
Further information	Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information	
15.1 Safety, health and environmental regulations/legislations specific for the substance or mixture	
Regulatory information	The product is classified and labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP). Contains isocyantes. See information supplied by the manufacturer.
15.2 Chemical safety assessment	Not applicable.

SECTION 16: Oter information	
Revision note	Safety data sheet sections that have been updated: 1.1, 1.4, 2.1, 3, 4.2, 5.2, 5.3, 6.1, 6.2, 8.1.
Key or legend to abbreviations and acronyms	None
Key literature references and sources for data	None
Classification procedure	Classification according to Regulation (EU) 1272/2008 with the correlation table 67/548/EEC or 1999/45/EC (Annex VII of CLP)
Full text of phrases referred to under sections 2 and 3	H315: Causes skin irritation
	H317: May cause an allergic skin reaction
	H319: Causes serious eye irritation
	H332 Harmful if inhaled
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	H334: May cause respiratory irritation
	H351: Suspected of causing cancer
	H373inh: May cause damage to organs through prolonged or repeated exposure if inhaled
	R20: Harmful by inhaltion
	R36/37/38: Irritating to eyes, respiratory system and skin
	R40: Limited evidence of a carcinogenic effect
	R42/43: May cause sensitisation by inhalation and skin contact
	R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Training advice	For further information, please also consult the internet site www.isopa.org
Further information	Take notice of the directions of use on the label
Disclaimer	The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. It is not considered a warranty or quality specification. Since conditions for use of the product are not under our control, it is the buyers/users duty to determine the conditions necessary for the safe use of this product.