SAFETY DATA SHEET

Allcosil No. 3 – Catalyst B (v2)

1 IDENTIFICATION OF SUBSTANCE

1.1 Product Identifier:

Identification on the label/ Trade name: Allcosil No. 3 – Catalyst B (v2)

1.2 Relevant Identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Catalyst B component of Allcosil No.3. Allcosil No. 3 is a tough, permanent release agent for many surfaces.

1.2.2 Uses advised against:

Not available.

1.3 Details of the Supplier of the material safety data sheet:

J. Allcock & Sons Ltd.,
Textile Street,
West Gorton,
Manchester,
M12 5DL.

Email: ja@allcocks.co.uk
Tel: +44 (0)161 223 7181
Fax: + 44 (0)161 223 0173

1.4 Emergency telephone number: +44 (0)161 223 7181

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

2.1.1 Classification:

Classification according to Regulation (EC) No 1272/2008: Flammable liquid: Category 2.
Skin irritation: Category 2.
Target organ toxicant (central nervous system): Category 3.
Aspiration toxicant: Category 1.
Chronic aquatic toxicant: Category 2.
Acute toxicity (oral): Category 4
Reproductive toxicity: Category 2
Specific target organ toxicity - repeated exposure (oral): Category 1 (central nervous system, thymus gland, kidney)
Chronic aquatic hazard: Category 4
H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour
H302: Harmful if swallowed
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure
H336: May cause drowsiness or dizziness.
H361d: Suspected of damaging the unborn child
H411: Toxic to aquatic life with long lasting effects.
H413: May cause long lasting harmful effects to aquatic life Classification according to EU directive 67/548/EEC/1999/45 EC:
| F; R11 | Xn; R20/21/22 | R63 | R65 | Xi; R36/38 | R41 | R67 | N; R51/53 | C; R34 | R10 | R48/25
R11; Highly flammable. R20/21/22; Harmful by inhalation, in contact with skin and if swallowed. R63; Possible risk of harm to the unborn child. R65; Harmful: may cause lung damage if swallowed. R36/38; Irritating to eyes and skin. R41; Risk of serious damage to eyes. R67; Vapours may cause drowsiness and dizziness. R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R34; Causes burns. R10; Flammable. R48/25; Toxic: danger of serious damage to health by prolonged exposure if swallowed.

2.1.2 The most important adverse effects:

2.1.2.1 The most important adverse physiochemical effects:
Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited.

2.1.2.2 The most important adverse human health effects:
May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression.

2.1.2.3 The most important adverse environmental effects:
No additional hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

The classification of this product is based all or in part on test data.

2.2 Label elements:

2.2.1 Classification according to Regulation (EC) No 1272/2008: Pictograms:

Signal Word:

DANGER

Hazard Statements:

H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour
H302: Harmful if swallowed
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H315: Causes skin irritation.
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H361d: Suspected of damaging the unborn child
H411: Toxic to aquatic life with long lasting effects.
H413: May cause long lasting harmful effects to aquatic life

Precautionary Statements:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.
P233: Keep container tightly closed.
P240: Ground / bond container and receiving equipment.
P241: Use explosion-proof electrical, ventilating, and lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing mist / vapours.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves and eye / face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.
P308 + P313: If exposed or concerned: Get medical advice/ attention.
P312: Call a POISON CENTRE or doctor/physician if you feel unwell.
P331: Do NOT induce vomiting.
P332 + P313: If skin irritation occurs: Get medical advice/ attention.
P362: Take off contaminated clothing and wash before re-use.
P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) for extinction.
P391: Collect spillage.
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P501: Dispose of contents and container in accordance with local regulations.

2.3 Other hazards

Not available.

3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance/Mixture:

The product in question is a solution of fast cure additive/substrate bonding agents in a low boiling point white spirit.

3.2 Ingredients:

Hazardous Ingredients:

Substance Name	% by weight	CAS#	EINECS No.	REACH No.	Classification according to EU directive 67/548/EEC/1999/45 EC:	Classification according to Regulation (EC) No 1272/2008:
Octamethyltrisiloxane	2.22	107-51-7	203-497-4	01-2119970219-31	R10; R53	Flam. Liq. 3; H226
Tetrakis(2-butoxyethyl)-orthosilicate	0.13	18765-38-3	242-560-0		R38	Skin Corr/Irrit. 2 H315
Titanium tetrabutanolate	0.13	5593-70-4	227-006-8		R10 Xi; R41-R37/38 R67	Flam. Liq. 3; H226 Skin Corr/Irrit. 2; H315 Eye Dam. 1; H318 STOT SE. 3; H335 STOT SE. 3; H336
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	93.47		927-510-4	01-2119475515-33	F;R11, Xi;R38, Xn;R65, R67, N;R51/53	Aquatic Chronic 2 H411, Asp. Tox. 1 H304, Flam. Liq. 2 H225, STOT SE 3 H336, Skin Irrit. 2 H315

4 FIRST-AID MEASURES

4.1 Description of first aid measures:

4.1.1 In case of inhalation:
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

4.1.2 In case of skin contact:
Wash contact areas with soap and plenty of water. Get medical attention. Remove contaminated clothing and shoes. Launder contaminated clothing and shoes before reuse.

4.1.3 In case of eye contact:
Immediately flush thoroughly with plenty of water. If irritation occurs, get medical assistance.

4.1.4 In case of ingestion:
DO NOT induce vomiting. Obtain medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.

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

Headache, dizziness, drowsiness, nausea and other CNS effects. Itching, pain, redness, swelling of skin. Harmful if swallowed. Causes serious eye damage. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure.

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

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This light hydrocarbon material, or a component, may be associated with cardiac sensitisation following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart stimulating substances like epinephrine. Administration of such substances should be avoided.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:

5.1.1 Suitable extinguishing media:
Use Alcohol resistant foam, dry chemical, or carbon dioxide (CO2) to extinguish flames.

5.1.2 Unsuitable extinguishing media:
Straight streams of water

5.2 Specific Hazards arising from the substance or mixture:

Hazardous Combustion Products: Smoke, Fume, Incomplete combustion products, Oxides of carbon and silicone, metal Oxides, formaldehyde.

5.3 Advice for fire-fighters:

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Highly flammable. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Flammability properties:
Flash Point [Method]: <0C (32F) [ASTM D-56]
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 7.0 LEL: 0.6 [Extrapolated]
Autoignition Temperature: >200°C (392°F) [Extrapolated]

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Notification procedures:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Protective measures:

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapour and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2 Environmental precautions:

Large Spills:

Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, Prevent spreading over a wide area (eg by contaminated or oil barriers) sewers, basements or confined areas. Retain and dispose of contaminated water wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods of containment and cleaning up:

Land Spill:

Eliminate all ignition sources (no smoking, flares, sparks/spark inducing tools or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Recover by pumping or with suitable absorbent.

Water Spill:

Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10°C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4 Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid contact with skin. Prevent exposure to ignition sources, for example use non-sparking tools and explosion proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature:

[Ambient]

Transport Temperature:

[Ambient]

Static Accumulator:

This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

7.2 Conditions for safe storage, including any incompatibilities:

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The container choice, for example storage vessel, may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

Advice on common storage:
Do not store with the following product types:
Strong oxidizing agents
Organic products
Flammable Solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Explosives
Gases

Storage temperature and Pressure[Ambient]
Suitable Containers/Packing:
Tank Trucks; Drums; Railcars; Barges Suitable
Materials and Coatings (Chemical Compatibility):
Carbon Steel; Stainless Steel; Polyethylene; Polypropylene; Teflon;
Polyester Unsuitable Materials and Coatings:
Natural Rubber; Butyl Rubber; Ethylene-proplyene-diene monomer (EPDM); Polystyrene
Shelf Life
Material if kept in dark, dry conditions and not exposed to extreme temperatures or left opened has a shelf life of 12 months from date of purchase

7.3 Specific end use(s):
Risk Management Methods (RMM): The information required is contained in this Safety Data Sheet Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
Occupational Exposure limits:

Components	CAS-No.	Form of Exposure	Control Parameters	Basis
Octamethyltrisiloxane	107-51-7	TWA	200ppm	DCC OEL

Occupational Exposure limits of decomposition products:

Components	CAS-No.	Form of Exposure	Control Parameters	Basis
Propan-1-ol	71-23-8	STEL	250ppm 625 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity			
		TWA	200ppm 625 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity			
2-Butoxyethanol	111-76-2	TWA	20ppm 98mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	50ppm 246mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	25ppm	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity			
		STEL	50ppm	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity			
Butan-1-ol	71-36-3	STEL	50ppm 154mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End use	Exposure routes	Potential Health Effects	Value
Octamethyltrisiloxane	Workers	Inhalation	Long term systemic effects	78 mg/ml
	Workers	Inhalation	Acute systemic effects	78 mg/ml
	Workers	Skin Contact	Long term systemic effects	1103 mg/kg bw/day
	Workers	Skin Contact	Acute systemic effects	1103 mg/kg bw/day

Substance name	End use	Exposure routes	Potential Health Effects	Value
Octamethyltrisiloxane	Consumers	Inhalation	Long term systemic effects	19 mg/ml
	Consumers	Inhalation	Acute systemic effects	19 mg/ml
	Consumers	Skin Contact	Long term systemic effects	556.5mg/kg bw/day
	Consumers	Skin Contact	Acute systemic effects	556.5mg/kg bw/day
	Consumers	Ingestion	Long term systemic effects	0.04mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0.04mg/kg bw/day
Tetrapropyl orthosilicate	Workers	Inhalation	Long term systemic effects	85 mg/m3
	Workers	Inhalation	Acute systemic effects	85 mg/m3
	Workers	Skin Contact	Long term systemic effects	12 mg/kg bw/day
	Workers	Skin Contact	Acute systemic effects	12 mg/kg bw/day
	Consumers	Inhalation	Long term systemic effects	21 mg/m3
	Consumers	Inhalation	Acute systemic effects	21 mg/m3
	Consumers	Skin Contact	Long term systemic effects	6 mg/kg bw/day
	Consumers	Skin Contact	Acute systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Long term systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	6 mg/kg bw/day
Organo Titanate	Workers	Inhalation	Long term systemic effects	127mg/m3
	Consumers	Ingestion	Long term systemic effects	3.75mg/kg bw/day
	Consumers	Skin Contact	Long term systemic effects	37.5 mg/kg bw/day
	Consumers	Inhalation	Long term systemic effects	152 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Enviromental Compartment	Value
Octamethyltrisiloxane	Fresh water sediment	1.326 mg/kg
	Marine sediment	0.13 mg/kg
	Soil	>= 0.44 mg/kg
	Sewage Treatment plant	> 1 mg/l
Tetrapropyl orthosilicate	Fresh water	10 mg/l
	Marine water	1mg/l
	Fresh water sediment	11mg/kg
	Marine sediment	1.1mg/kg
	Soil	3.9mg/kg
	Sewage Treatment plant	96mg/l

8.2.1 Appropriate engineering controls:

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

8.2.2 Individual protection measures:

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Eye/face protection:

If contact is likely, safety glasses with side shields are recommended. If splashes likely, wear face-shield

Hand protection:

Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Nitrile, CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Body protection:

Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical / oil resistant clothing if contact with material is likely.
Flame retardant antistatic protective clothing suggest

Respiratory protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Specific Hygiene Measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

8.2.3 Environmental exposure controls: See Sections 6, 7, 12, 13.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:		Clear liquid.
Physical state:		Liquid.
Colour:		Colourless
Odour:		Solvent
pH:		Neutral
Melting point/range (°C):		N/A
Boiling point/range (°C):		83-105
Flash point (°C):		0
Evaporation rate:		4
Flammability (soild,gas):		Highly flammable.
Ignition temperature (°C):		N/A
Upper/lower flammability/explosive limits:		Forms explosive mixtures in air. Lower: 0.6 Upper: 7.0 (%/vol)
Vapour pressure (kPa):	@ 20°C	40
Vapour density:		N/A
Relative Density (g cm^{-3})	@ 25°C	0.681-0.781
Solubility:		Insoluble in water.
Auto-ignition temperature (°C):		> 200
Decomposition temperature (°C):		N/A
Viscosity (mm^2 s^{-1}, cSt):	@ 25°C	N/A
Other data:		Contains less than 0.1% w/w Benzene.

9.2 Physical hazards:

Not available.

10 STABILITY AND REACTIVITY

10.1 Reactivity:

See sub-sections below.

10.2 Chemical stability:

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions:

Can react with strong oxidizing agents. When heated to temperatures above the 150^{O}C on the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required.

10.4 Conditions to avoid:

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials:

Strong oxidisers

10.6 Hazardous decomposition products:

Material does not decompose at ambient temperatures.

11 TOXICOLOGICAL INFORMATION

11.1 Toxicokinetics, metabolism and distribution:

Component	Toxicity	Test	Species	Assessment	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Acute oral toxicity	LD50: >2000mg/kg	Rat	The substance has no acute oral toxicity	Information taken from reference works and the literature
	Acute dermal toxicity	LD50: >2000mg/kg	Rat	The substance has no acute dermal toxicity	Information taken from reference works and the literature
Titanium tetrabutanolate	Acute oral toxicity	LD50: >2000mg/kg	Rat		
	Acute inhalation toxicity	LD50: 11mg/l Exposure time: 4h Atmosphere: dust/mist	Rat		
Octamethyltrisiloxane	Acute oral toxicity	LD50: >2000mg/kg	Rat		Based on test data
	Acute inhalation toxicity	LD50: >2350mg/kg Exposure time: 4h Atmosphere: Vapour	Rat	The substance has no acute inhalation toxicity	Based on test data
	Acute dermal toxicity	LD50: >2000mg/kg	Rat	The substance has no acute dermal toxicity	Based on test data

Serious Eye damage/irritation:
Causes serious eye damage

Substance name	Species	Result	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Rabbit	No eye irritation	Information taken from reference works and the literature
Titanium tetrabutanolate	Rabbit	Irreversible effects on the eye	
Octamethyltrisiloxane		No eye irritation	Based on data from similar materials

Respiratory Sensitization:
Not classified based on available information

Skin Sensitization:
Not classified based on available information

Substance name	Test Type	Species	Result	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Buehler Test		No known sensitizing effects.	Information taken from reference works and the literature
Titanium tetrabutanolate	Local lymph node assay (LLNA)	Mouse	Negative	Exposure route: Skin contact
Octamethyltrisiloxane	Human repeat insult patch test (HRIPT)	Humans	Does not cause skin sensitization	Based on test data

Germ cell mutagenicity:
Not classified based on available information

Substance name	Test Type	Method	Result	Remarks
Titanium tetrabutanolate	Bacterial reverse mutation assay (AMES)	OECD Test Guideline 471	Negative	
Octamethyltrisiloxane	Chromosome aberration test in vitro		Negative	Based on test data
	Bacterial reverse mutation assay (AMES)		Negative	Based on test data

Carcinogenicity:
Not classified based on available information

STOT – single exposure:
Not classified based on available information

Substance name	Remarks
Titanium tetrabutanolate	May cause respiratory irritation, may cause drowsiness or dizziness

STOT – repeated exposure:
Not classified based on available information

Substance name	Exposure route	Assessment
Octamethyltrisiloxane	Ingestion	No significant health effects observed in animals at concentrations of 100mg/kg bw or less
	Inhalation (Vapour)	No significant health effects observed in animals at concentrations of 1mg/l/6h/d or less

Aspiration toxicity:
Not classified based on available information

Skin corrosion/irritation:
Not classified based on available information

Substance name	Species	Result	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Rabbit	Skin Irritation	Based on test data
Titanium tetrabutanolate		Skin Irritation	
Octamethyltrisiloxane	Rabbit	No Skin Irritation	Based on test data

Reproductive toxicity:
Not classified based on available information

Substance name	Test Type	Species	Application Route	Result	Remarks
Octamethyltrisiloxane	Combined repeated dose toxicity study with the reproduction /developmental toxicity screening test	Rat, male and female	Inhalation (Vapour)	No effect on fertility	Based on test data
	Uterotrophic assay	Rat, female	Inhalation (Vapour)	Negative	Based on test data
	Combined repeated dose toxicity study with the reproduction /developmental toxicity screening test	Rat, male and female	Inhalation (Vapour)	No effects on foetal development	Based on test data
Assessment	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.				

Repeated dose toxicity:

Substance name	Species	Exposure route	Remarks
Octamethyltrisiloxane	Rat	Ingestion	Based on test data
	Rat	Inhalation (Vapour)	Based on test data

11.3 Other Information:
For the Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (93.47% wt/wt):

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting maycause chemical pneumonitis or pulmonary oedema. Very high exposure (confined spaces / abuse) to light hydrocarbons may result in abnormal heart rhythm (arrhythmias). Concurrent high stress levels and/or co-exposure to high levels of hydrocarbons (above occupational exposure limits), and to heart-stimulating substances like epinephrine, nasal decongestants, asthma drugs, or cardiovascular drugs may initiate arrhythmias.

Note: This material contains octamethyltrisiloxane (L3). Repeated inhalation exposure in rats to L3 resulted in protophyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

12 ECOLOGICAL INFORMATION

12.1 Toxicity:

Substance name	Toxicity	Value	Species	Method	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Toxicity to fish	LC50: >201 mg/l Exposure time: 96hrs	Danio rerio (zebra fish)	OECD Test Guideline 203	
	Toxicity to daphnia and other aquatic invertebrates	EC50: >90mg/l Exposure time: 48h	Daphnia sp.	EG 84/449	No toxicity at the limit of solubility
	Toxicity to algae	ErC50: >161 mg/l Exposure time: 72h	Scenedesmus subspicatus	88/302/EC	
Assessment	This product has no known ecotoxicological effects				
Octamethyltrisiloxane	Toxicity to fish	LC50: > 0.019mg/l Exposure time 96h	Oncorhynchus mykiss (rainbow trout)	OECD Test Guideline 203	Based on test data No Toxicity at the limit of solubility
	Toxicity to daphnia and other aquatic invertebrates	EC50: > 0.020mg/l Exposure time: 48h	Daphnia magna (Water flea)	OECD Test Guideline 202	No toxicity at the limit of solubility
	Toxicity to algae	EC50: > 0.0094mg/l Exposure time: 72h	Pseudokirchnereilla subcapitata	OECD Test Guideline 201	No toxicity at the limit of solubility
	Toxicity to fish (Chronic toxicity)	NOEC50: 0.027mg/l	Oncorhynchus mykiss (rainbow trout)	OECD Test Guideline 210	Based on test data No toxicity at the limit of solubility
	Toxicity to daphnia and other aquatic invertebrates (Chronic Toxicity)	NOEC50: > 0.15mg/l Exposure time 21 d	Daphnia sp.	OECD Test Guideline 211	No toxicity at the limit of solubility
Assessment	This product has no known ecotoxicological effects				

12.2 Persistence and degradability:

Substance name	Test	Result	Method	Remarks
Tetrakis(2-butoxyethyl) orthosilicate	Biodegradability	Readily Biodegradable Biodegradation: 83%	OECD Test Guideline 301B	
Octamethyltrisiloxane	Biodegradability	No readily biodegradable Biodegradation: 0%	OECD Test Guidelent 310	
	Stability in water	Degredation half life: 329 h pH:7	OECD Test Guideline 111	Based on test data

12.3 Bioaccumulate potential

Substance name	Species	Result	Method	Remarks
Titanium tetrabutanolate				
Partition coefficient: n-octanol/water	Log Pow: 0.88			
Octamethyltrisiloxane	Pimephales promelas (fathead minnow)	Bioconcentration factor (BCF): >=500	OECD Test Guideline 305	Biomagnification factor: <1
Partition coefficient: n-octanol/water	Log Pow: >=4 (Based on test data)			

12.4 Mobility in soil:
No data available

12.5 Results of PBT and vPvB assessment:
No data available

12.6 Other adverse effects:
No data available

13 DISPOSAL CONSIDERATIONS

13. 1 Waste treatment methods:

Product: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty Containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: dispose of as unused product

14 TRANSPORT INFORMATION

14.1 General:

Transport Name: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
Symbols: Class 3 Flammable liquid.

14.2 UN-no:

1263

14.3 Transport hazard class(es)

14.3.1 RID/ADR:
RID/ADR Class: 3
RID/ADR Packaging Group: II
14.3.2 IMO:
IMO Class: 3
IMO Packing Group: II
MFAG: 310
EMS:3-07
14.3.3 IATA/ICAO:
ICAO Class: 3
ICAO Sub: -
ICAO Packaging Group: II

15 REGULATORY INFORMATION

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

Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]
2004/42/CE [on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.]
92/85/EEC [on the safety and health at work of pregnant
workers] 94/33/EC: [on the protection of young people at work]
96/82/EC as extended by 2003/105/EC [... on the control of major-accident hazards involving dangerous substances].
Product contains a substance that falls within the criteria defined in Annex I. Refer to Directive for details of requirements taking into account the volume of product stored on site.
98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.
1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

Refer to the relevant EU/national regulation for details of any actions or restrictions required by the above Regulation(s)/Directive(s).

15.2 Chemical safety assessment:

Chemical safety assessments for substances in this mixture were not carried out

16 OTHER INFORMATION

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