Antas 169 Structural Silicone Sealant

Antas Sealants and Adhesives

Part Number: **66169**
Version No: **1.2.8.7**
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: **28/06/2021**
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SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Antas 169 Structural Silicone Sealant
Chemical Name	Not Applicable
Synonyms	AT169
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	For structural glazing, structural sealing of glass curtain wall.

Details of the supplier of the safety data sheet

Registered company name	**Antas Sealants and Adhesives**
Address	21-23 Pavesi Street Smithfield NSW 2164 Australia
Telephone	+61 2 9157 0368
Fax	Not Available
Website	www.antas.com.au
Email	info@antas.com.au

Emergency telephone number

Association / Organisation	**Not Available**
Emergency telephone numbers	**+61 2 9157 0368**
Other emergency telephone numbers	**National Poison Information Centre 13 11 26**

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule	Not Applicable
Classification [1]	Serious Eye Damage/Eye Irritation Category 1, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 1B, Skin Sensitizer Category 1, Chronic Aquatic Hazard Category 3
Legend:	*1. Classification by vendor; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

Label elements

Hazard pictogram(s)	

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Signal word	**Danger**

Hazard statement(s)

H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H315	Causes skin irritation.
H360FD	May damage fertility. May damage the unborn child.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

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

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
471-34-1	30-55	calcium carbonate
2224-33-1	<10	vinyltris(methylethylketoxime)silane
919-30-2	<2	3-aminopropyltriethoxysilane
77-58-7	<1	dibutyltin dilaurate

Legend:	*1. Classification by vendor; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available*

SECTION 4 First aid measures

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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 or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay.
Ingestion	▸ **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.** ▸ For advice, contact a Poisons Information Centre or a doctor. ▸ Urgent hospital treatment is likely to be needed. ▸ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▸ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ▸ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. **Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:** ▸ **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. **NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).
For poisons (where specific treatment regime is absent):

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.
- Anticipate seizures.
- **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.

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.

BRONSTEIN, A.C. and CURRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994
Treat symptomatically.

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SECTION 5 Firefighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

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

Advice for firefighters

Fire Fighting	‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear breathing apparatus plus protective gloves. ‣ Prevent, by any means available, spillage from entering drains or water courses. ‣ Use water delivered as a fine spray to control fire and cool adjacent area. ‣ **DO NOT** approach containers suspected to be hot. ‣ Cool fire exposed containers with water spray from a protected location. ‣ If safe to do so, remove containers from path of fire. ‣ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	Combustible. Will burn if ignited. Combustion products include: , carbon monoxide (CO) , carbon dioxide (CO_2) , nitrogen oxides (NO_x) , silicon dioxide (SiO_2) , other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. Heating calcium carbonate at high temperatures(825 C.) causes decomposition, releases carbon dioxide gas and leaves a residue of alkaline lime
HAZCHEM	Not Applicable

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	‣ Clean up all spills immediately. ‣ Avoid contact with skin and eyes. ‣ Wear impervious gloves and safety goggles. ‣ Trowel up/scrape up. ‣ Place spilled material in clean, dry, sealed container. ‣ Flush spill area with water.
Major Spills	‣ Clear area of personnel and move upwind. ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear breathing apparatus plus protective gloves. ‣ Prevent, by any means available, spillage from entering drains or water course. ‣ Stop leak if safe to do so. ‣ Contain spill with sand, earth or vermiculite. ‣ Collect recoverable product into labelled containers for recycling. ‣ Neutralise/decontaminate residue (see Section 13 for specific agent). ‣ Collect solid residues and seal in labelled drums for disposal. ‣ Wash area and prevent runoff into drains.

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	▸ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▸ If contamination of drains or waterways occurs, advise emergency services.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps. ▸ **DO NOT** enter confined spaces until atmosphere has been checked. ▸ **DO NOT** allow material to contact humans, exposed food or food utensils. ▸ Avoid contact with incompatible materials. ▸ When handling, **DO NOT** eat, drink or smoke. ▸ Keep containers securely sealed when not in use. ▸ Avoid physical damage to containers. ▸ Always wash hands with soap and water after handling. ▸ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▸ Use good occupational work practice. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. ▸ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
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. ▸ Protect containers against physical damage and check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Calcium carbonate: ▸ is incompatible with acids, ammonium salts, fluorine, germanium, lead diacetate, magnesium, mercurous chloride, silicon, silver nitrate, titanium. Contact with acid generates carbon dioxide gas, which may pressurise and then rupture closed containers Methyl ethyl ketoxime (MEKO): ▸ is incompatible with aldehydes, strong oxidisers, acids ▸ reacts with sulfuric acid to form an explosive ▸ may decompose explosively when heated; acids increase thermal sensitivity. Distillation with acid impurities may cause violent explosion. Hydrolysis with aqueous sulfuric acid followed by release of methyl ethyl ketone during distillation, left a residue of hydroxylammonium sulfate which decomposed violently. MEKO contaminated with sulfuric acid may detonate ▸ Contact with water liberates highly flammable gases ▸ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. ▸ Avoid reaction with oxidising agents

+	x	+	x	+	+	+

X — *Must not be stored together*
0 — *May be stored together with specific preventions*
+ — *May be stored together*

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

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Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	calcium carbonate	Calcium carbonate	10 mg/m3	Not Available	Not Available	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	dibutyltin dilaurate	Tin, organic compounds (as Sn)	0.1 mg/m3	0.2 mg/m3	Not Available	(g) Some compounds in these groups are classified as carcinogenic or as sensitisers. Check individual classification details on the safety data sheet for information on classification.

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
calcium carbonate	45 mg/m3	210 mg/m3	1,300 mg/m3
3-aminopropyltriethoxysilane	1.9 mg/m3	21 mg/m3	350 mg/m3
dibutyltin dilaurate	1.1 mg/m3	8 mg/m3	48 mg/m3

Ingredient	Original IDLH	Revised IDLH
calcium carbonate	Not Available	Not Available
vinyltris(methylethylketoxime)silane	Not Available	Not Available
3-aminopropyltriethoxysilane	Not Available	Not Available
dibutyltin dilaurate	25 mg/m3	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
vinyltris(methylethylketoxime)silane	D	> 0.1 to ≤ 1 ppm
3-aminopropyltriethoxysilane	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.*	

MATERIAL DATA

For calcium carbonate:
The TLV-TWA is thought to be protective against the significant risk of physical irritation associated with exposure.

Exposure controls

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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)	2.5-10 m/s (500-2000 f/min.)

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	Within each range the appropriate value depends on: Lower end of the range: 1: Room air currents minimal or favourable to capture; 2: Contaminants of low toxicity or of nuisance value only.; 3: Intermittent, low production.; 4: Large hood or large air mass in motion Upper end of the range: 1: Disturbing room air currents; 2: Contaminants of high toxicity; 3: High production, heavy use; 4: Small hood-local control only Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.
Personal protection	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles. ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ‣ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
Body protection	See Other protection below
Other protection	‣ Protective overalls, closely fitted at neck and wrist. ‣ Eye-wash unit. **IN CONFINED SPACES:** ‣ Non-sparking protective boots ‣ Static-free clothing. ‣ Ensure availability of lifeline. Staff should be trained in all aspects of rescue work. Rescue gear: Two sets of SCBA breathing apparatus Rescue Harness, lines etc.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- 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

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75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Coloured

Physical state	Non Slump Paste	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Not Available	**pH as a solution (%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system. The principal toxic effects of methyl ethyl ketoxime MEKO in animal studies, regardless of the route of administration, include haemolytic anaemia, increased respiration; and reversible reduction in spontaneous activity, motor coordination and muscle tone. At high vapour concentration the product has a reversible narcotic action Extremely high concentrations may lead to coma and respiratory failure.
Ingestion	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 Application of 0.5 gm methyl ethyl ketoxime (MEKO) to the backs of rabbits for 24 hours under an occlusive dressing produced mild irritation (Draize score 1.5 out of 8). MEKO was a strong sensitiser in the maximisation test (8 out of 10 guinea pigs were sensitised. Open cuts, abraded or irritated skin should not be exposed to this material

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	Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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. The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either ▸ produces moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or ▸ produces significant, but moderate, inflammation when applied to the healthy intact skin of animals (for up to four hours), such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
Eye	When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. 0.1 ml of methyl ethyl ketoxime (MEKO) was corrosive to the rabbit eye.
Chronic	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance who are likely to become hyper-responsive. Substances than can cuase occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing air-way hyper-responsiveness. The latter substances are not classified as asthmagens or respiratory sensitisers Wherever it is reasonably practicable, exposure to substances that can cuase occupational asthma should be prevented. Where this is not possible the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance. There is sufficient evidence to provide a strong presumption that human exposure to the material may result in impaired fertility on the basis of: - clear evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Methyl ethyl ketoxime (MEKO) administered to rats by gavage at 25, 75 and 225 mg/kg/day, 7 days/week for 13 weeks, produced dose-related decreases in red blood cell counts and haemoglobin and haematocrit values accompanied by a mild to marked reticulocytosis (increased number of young red blood cells). Other effects included a dose-related pattern of spleen, liver and kidney weights. The spleen and liver showed evidence of compensatory red blood cell production suggesting that, in the rat, MEKO induces haemolytic anaemia with complementary erythropoiesis. A no-observed-effect-level was not established but effects at 25 mg/kg were described as minimal. When MEKO was administered to rats at dose levels of 0.5, and 1.0 ml/kg/day, daily for 4 weeks, transient central nervous system depression immediately followed. At 4 weeks dose-related decreases were seen in red blood cell count and haemoglobin. Dose-related increases were evident in spleen weight (from 1.7 to 3.2 fold). It was concluded that 0.1 ml/kg produced only minimal effects. When rats were exposed by inhalation to MEKO vapour for 6 hours/day, 5 days/week for 4 weeks, mild increases in blood mean corpuscular volume, mean corpuscular haemoglobin, reticulocyte count and red blood cell count were seen at 533 and 714 ppm. Spleen weights were increased and haemosiderosis (deposits of iron) in the spleen were seen at 714 ppm. Haemosiderosis probably resulted from red blood cell haemolysis. Exposures at 60 and 283 ppm produced no observed effects. An increased incidence of liver tumours was observed microscopically in male mice exposed to 375 ppm for 18 months. Both male and female mice exposed at 375 ppm showed enlarged livers but tumours did not occur in females. Pure calcium carbonate does not produce pneumoconiosis probably being eliminated from the lungs slowly by solution. As mined, unsterilised particulates can carry bacteria into the air passages and lungs, producing infection and bronchitis. On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.

Antas 169 Structural Silicone Sealant	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
calcium carbonate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit): 0.75 mg/24h - SEVERE
	Inhalation(Rat) LC50; >3 mg/l4h[1]	Eye: no adverse effect observed (not irritating)[1]
	Oral(Rat) LD50; >2000 mg/kg[1]	Skin (rabbit): 500 mg/24h-moderate

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		Skin: no adverse effect observed (not irritating)[1]
vinyltris(methylethylketoxime)silane	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2009 mg/kg[1]	Eye: adverse effect observed (irritating)[1]
	Oral(Rat) LD50; >2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]
3-aminopropyltriethoxysilane	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5700 mg/kg[1]	Eye (rabbit): 0.75 mg/24h-SEVERE
	Inhalation(Rat) LC50; >7.35 mg/l4h[1]	Eye (rabbit): 100 mg - mild
	Oral(Mouse) LD50; 260 mg/kg[2]	Skin (rabbit): 0.1 mg - mild
		Skin (rabbit): 5.0 mg/24h-SEVERE
dibutyltin dilaurate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit): 100 mg/24h -moderate
	Oral(Rat) LD50; >=33<=300 mg/kg[1]	Skin (rabbit): 500 mg/24h - mild
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*	

CALCIUM CARBONATE	No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.
VINYLTRIS(METHYLETHYLKETOXIME)SILANE	No significant acute toxicological data identified in literature search. alpha,beta-Unsaturated oximes represent two previously unknown classes of prohaptens.Three putative metabolites were proposed as sensitising agents. These included two diastereometric alpha,beta-epoxy oximes and a nitro analogue. When tested in the LLNA,alpha,beta-epoxy oximes. Allergic Contact Dermatitis—Formation, Structural Requirements,and Reactivity of Skin Sensitizers. Ann-Therese Karlberg et al: Chem. Res. Toxicol. 2008, 21, pp 53–69 http://ftp.cdc.gov/pub/Documents/OEL/06.%20Dotson/References/Karlberg_2008.pdf
3-AMINOPROPYLTRIETHOXYSILANE	For alkoxysilanes: Low molecular weight alkoxysilanes (including alkyl orthosilicates) are a known concern for lung toxicity, due to inhalation of vapours or aerosols causing irreversible lung damage at low doses. Alkoxysilane groups that rapidly hydrolyse when in contact with water, result in metabolites that may only cause mild skin irritation. Although there appears to be signs of irritation under different test conditions, based on the available information, the alkoxysilanes cannot be readily classified as a skin irritant. The trimethoxysilane group of chemicals have previously been associated with occupational eye irritation in exposed workers who experienced severe inflammation of the cornea . Based on the collective information, these substances are likely to be severe irritants to the eyes. Methoxysilanes are generally reported to possess higher reactivity and toxicity compared to ethoxysilanes; some methoxysilanes appear to be carcinogenic .In the US, alkoxysilanes with alkoxy groups greater than C2 are classified as moderate concern. Based on available information on methoxysilanes, the possibility that this family causes skin sensitisation cannot be ruled out. Amine-functional methoxysilanes have previously been implicated as a cause of occupational contact dermatitis, often as a result of repeated skin exposure with workers involved in the manufacture or use of the resins containing the chemical during fibreglass production. The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration. While it is difficult to generalise about the full range of potential health effects posed by exposure to the many different amine compounds, characterised by those used in the manufacture of polyurethane and polyisocyanurate foams, it is agreed that overexposure to the majority of these materials may cause adverse health effects. ▸ Many amine-based compounds can induce histamine liberation, which, in turn, can trigger allergic and other physiological effects, including bronchoconstriction or bronchial asthma and rhinitis. ▸ Systemic symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, tachycardia (rapid heartbeat), itching, erythema (reddening of the skin), urticaria (hives), and facial edema (swelling). Systemic effects (those affecting the body) that are related to the pharmacological action of amines are usually transient. Typically, there are four routes of possible or potential exposure: inhalation, skin contact, eye contact, and ingestion. **Inhalation:** Inhalation of vapors may, depending upon the physical and chemical properties of the specific product and the degree and length of exposure, result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs.

Continued...

Products with higher vapour pressures have a greater potential for higher airborne concentrations. This increases the probability of worker exposure.
Higher concentrations of certain amines can produce severe respiratory irritation, characterised by nasal discharge, coughing, difficulty in breathing, and chest pains.
Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, bronchopneumonia, and possible lung damage. Also, repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice, and liver enlargement. Some amines have been shown to cause kidney, blood, and central nervous system disorders in laboratory animal studies.
While most polyurethane amine catalysts are not sensitisers, some certain individuals may also become sensitized to amines and may experience respiratory distress, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapor. Once sensitised, these individuals must avoid any further exposure to amines. Although chronic or repeated inhalation of vapor concentrations below hazardous or recommended exposure limits should not ordinarily affect healthy individuals, chronic overexposure may lead to permanent pulmonary injury, including a reduction in lung function, breathlessness, chronic bronchitis, and immunologic lung disease.
Inhalation hazards are increased when exposure to amine catalysts occurs in situations that produce aerosols, mists, or heated vapors. Such situations include leaks in fitting or transfer lines. Medical conditions generally aggravated by inhalation exposure include asthma, bronchitis, and emphysema.
Skin Contact:
Skin contact with amine catalysts poses a number of concerns. Direct skin contact can cause moderate to severe irritation and injury-i.e., from simple redness and swelling to painful blistering, ulceration, and chemical burns. Repeated or prolonged exposure may also result in severe cumulative dermatitis.
Skin contact with some amines may result in allergic sensitisation. Sensitised persons should avoid all contact with amine catalysts. Systemic effects resulting from the absorption of the amines through skin exposure may include headaches, nausea, faintness, anxiety, decrease in blood pressure, reddening of the skin, hives, and facial swelling. These symptoms may be related to the pharmacological action of the amines, and they are usually transient.
Eye Contact:
Amine catalysts are alkaline in nature and their vapours are irritating to the eyes, even at low concentrations. Direct contact with the liquid amine may cause severe irritation and tissue injury, and the “burning” may lead to blindness. (Contact with solid products may result in mechanical irritation, pain, and corneal injury.)
Exposed persons may experience excessive tearing, burning, conjunctivitis, and corneal swelling.
The corneal swelling may manifest itself in visual disturbances such as blurred or “foggy” vision with a blue tint (“blue haze”) and sometimes a halo phenomenon around lights. These symptoms are transient and usually disappear when exposure ceases.
Some individuals may experience this effect even when exposed to concentrations below doses that ordinarily cause respiratory irritation.
Ingestion:
The oral toxicity of amine catalysts varies from moderately to very toxic.
Some amines can cause severe irritation, ulceration, or burns of the mouth, throat, esophagus,and gastrointestinal tract.
Material aspirated (due to vomiting) can damage the bronchial tubes and the lungs.
Affected persons also may experience pain in the chest or abdomen, nausea, bleeding of the throat and the gastrointestinal tract, diarrhea, dizziness, drowsiness, thirst, circulatory collapse, coma, and even death.
Polyurethane Amine Catalysts: Guidelines for Safe Handling and Disposal; Technical Bulletin June 2000
Alliance for Polyurethanes Industry
For 3-aminopropyltriethoxsilane (APTES):
Acute toxicity: 3-Aminopropyltriethoxysilane (APTES) has been tested for acute toxicity by the oral, dermal, and inhalation routes of exposure. Acute oral LD50s in rats range from 1570 to 3650 mg/kg bw. The dermal LD50 is 4.29 g/kg bw and the 4-hour inhalation LC50 of the hydrolysate is greater than 7.35 mg/L. Six hours of exposure to substantially saturated vapor of APTES did not kill any of the 5 male or female rats (LC50 > 6 hours). The kidney is a target organ for toxicity for oral and dermal exposures.
APTES is severely irritating to the skin and eyes. In a Buehler study in guinea pigs, 7/30 animals showed a skin sensitisation response. The hydrolysis products of this material do not elicit a sensitisation response in a guinea pig
maximization test.
Repeat dose toxicity: Repeated inhalation exposure of rats to 147 mg/m3 of APTES hydrolysate respirable aerosol for four weeks produced squamous metaplasia and foci of minimal granulomatous laryngitis. No systemic toxicity was observed in rabbits after 9 repeated dermal doses of 17 or 84 mg/kg bw/day or three repeated dermal doses of 126 mg/kg bw/day of APTES; the site of contact NOAEL is less than 17 mg/kg bw/day. The no-observed-adverse-effect level (NOAEL) of APTES in a 90-day oral (gavage) study with rats was 200 mg/kg bw/day.
Genotoxicity: APTES has been tested in several bacterial reverse mutation/Ames assays, *in vitro* V79 hamster lung cell and Chinese hamster fibroblast chromosome aberration assays, two Chinese hamster ovary cell HGPRT gene mutation assays, and an *in vivo* mouse micronucleus assay. *In vivo* and *in vitro* screening assays have not revealed any evidence of genotoxic potential.
Reproductive and developmental toxicity: At the highest dose-level (600 mg/kg/day) in a 90 day oral gavage study in rats, no effects were seen on parameters of oestrus cycle and spermatogenesis or reproductive organs. The NOAEL for developmental effects has been identified for APTES following exposure via oral (gavage) in rats, with a value of 100 mg/kg bw/day, the NOAEL for maternal toxicity based on deaths and ulceration of the GI tract is <0.5 mL/kg.

Continued...

DIBUTYLTIN DILAURATE	Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies.
Antas 169 Structural Silicone Sealant & CALCIUM CARBONATE & 3-AMINOPROPYLTRIETHOXYSILANE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.
Antas 169 Structural Silicone Sealant & VINYLTRIS(METHYLETHYLKETOXIME)SILANE & 3-AMINOPROPYLTRIETHOXYSILANE	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. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
CALCIUM CARBONATE & 3-AMINOPROPYLTRIETHOXYSILANE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
CALCIUM CARBONATE & VINYLTRIS(METHYLETHYLKETOXIME)SILANE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

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*

SECTION 12 Ecological information

Toxicity

Antas 169 Structural Silicone Sealant

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

calcium carbonate

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	6h	Fish	4-320mg/l	4
EC50	72h	Algae or other aquatic plants	>14mg/l	2
LC50	96h	Fish	>165200mg/L	4

vinyltris(methylethylketoxime)silane

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	72h	Algae or other aquatic plants	1mg/l	2
EC50	72h	Algae or other aquatic plants	6.1mg/l	2
EC50	48h	Crustacea	201mg/l	2
LC50	96h	Fish	>100mg/l	2

Continued...

	Endpoint	Test Duration (hr)	Species	Value	Source
3-aminopropyltriethoxysilane	BCF	672h	Fish	<0.53	7
	NOEC(ECx)	72h	Algae or other aquatic plants	1.3mg/l	2
	EC50	72h	Algae or other aquatic plants	603mg/l	2
	LC50	96h	Fish	>934mg/l	2
	EC50	48h	Crustacea	331mg/l	2

	Endpoint	Test Duration (hr)	Species	Value	Source
dibutyltin dilaurate	LC50	96h	Fish	21.2mg/l	2
	EC50	48h	Crustacea	1.7-3.4mg/l	2
	EC10(ECx)	96h	Algae or other aquatic plants	>0.5mg/l	4
	BCF	1344h	Fish	2.2-40	7
	EC50	72h	Algae or other aquatic plants	>1mg/l	2

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

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 methyl ethyl ketoxime (MEKO):
Environmental fate"
This substance may hydrolyse, depending on the pH. At 20 C, MEKO is hydrolytically unstable at pH 4, whereas no hydrolysis occurs at pH 9. At pH 7, 14% of the substance was hydrolysed after 4 days. Therefore, at neutral to acidic environmental conditions, hydrolysis may be an important degradation pathway for this substance. Hydrolysis products are methyl ethyl ketone (MEK) (CAS RN 78-93-3) and hydroxylamine (CAS RN 7803-49-8) . The inherent biodegradation study (MITI 1992) suggests that this substance undergoes relatively rapid primary biodegradation, but that ultimate degradation is slower
The BIOWIN (2008) aerobic biodegradation models (BIOWIN submodels 3, 4, 5 and 6) suggest that MEKO biodegrades rapidly
Although little MEKO is expected to partition to sediment, the modelled BIOWIN (2008) biodegradation timeframes (order of weeks), along with the potential for hydrolysis, suggest that the primary degradation half-life in water is likely <90 days.
Based on the empirical and modelled data , MEKO meets the persistence criterion in air (half-life in air .2 days), but does not meet the criteria for water, soil or sediment (half-lives in soil and water .182 days and half-life in sediment . 365 days), as set out in the *Persistence and Bioaccumulation Regulations* (Canada 2000).
Experimental log Kow values for MEKO suggest that this chemical has low potential to bioaccumulate in biota. Experimentally derived bioconcentration factors (BCF) of 0.5-5.8 for carp (*Cyprinus carpio*) and Japanese medaka (*Oryzias latipes*) (MITI 1992; ECB 2000) demonstrate that MEKO is not bioaccumulative
Furthermore, log Kow values for the hydrolysis products methyl ethyl ketone (MEK) and hydroxylamine are very low , indicating that these chemicals also have low potential to bioaccumulate.
Based on the available empirical and kinetic-based modelled values, MEKO does not meet the bioaccumulation criteria (BAF or BCF .5000) as set out in the *Persistence and Bioaccumulation Regulations* (Canada 2000).
Ecotoxicity:
The toxicity data indicate that MEKO has a moderate potential to be toxic to algae and a low potential for most other aquatic organisms. Furthermore, considering the toxicity of the hydrolysis products (methyl ethyl ketone (MEK) and hydroxylamine), as well as the low rate of hydrolysis (14% in 4 days) under environmental conditions, the risk due to the hydrolysis products of MEKO is not expected to be significantly higher than that of the compound itself
Fish LC50 (48 h): Oryzias latipes (Medaka) 560 mg/l
Fish LC50 (96 h): fathead minnows (Pimephales promelas) 10-840 mg/l
Daphnia EC50 (48 h): 750 mg/l
EC50 (0.1 h): Vibrio (Photobacterium) phosphoreum 950 ppm
Toxicity invertebrate: tox bac 0.63g/l, protozoa 2.5g/l
Effects on algae and plankton: tox to algae at 1g/l
.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
3-aminopropyltriethoxysilane	HIGH	HIGH
dibutyltin dilaurate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
3-aminopropyltriethoxysilane	LOW (BCF = 5.4)

Continued...

Ingredient	Bioaccumulation
dibutyltin dilaurate	LOW (BCF = 110)

Mobility in soil

Ingredient	Mobility
3-aminopropyltriethoxysilane	LOW (KOC = 12150)
dibutyltin dilaurate	LOW (KOC = 64610000)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	‣ Containers may still present a chemical hazard/ danger when empty. ‣ Return to supplier for reuse/ recycling if possible. Otherwise: ‣ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ‣ Where possible retain label warnings and SDS and observe all notices pertaining to the product. ‣ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ‣ It may be necessary to collect all wash water for treatment before disposal. ‣ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ‣ Where in doubt contact the responsible authority. ‣ Recycle wherever possible or consult manufacturer for recycling options. ‣ Consult State Land Waste Authority for disposal. ‣ Bury or incinerate residue at an approved site. ‣ Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

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

Product name	Group
calcium carbonate	Not Available
vinyltris(methylethylketoxime)silane	Not Available
3-aminopropyltriethoxysilane	Not Available
dibutyltin dilaurate	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
calcium carbonate	Not Available
vinyltris(methylethylketoxime)silane	Not Available
3-aminopropyltriethoxysilane	Not Available
dibutyltin dilaurate	Not Available

SECTION 15 Regulatory information

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

Continued...

calcium carbonate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

vinyltris(methylethylketoxime)silane is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

3-aminopropyltriethoxysilane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

dibutyltin dilaurate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (vinyltris(methylethylketoxime)silane; 3-aminopropyltriethoxysilane; dibutyltin dilaurate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (vinyltris(methylethylketoxime)silane)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	28/06/2021
Initial Date	28/06/2021

SDS Version Summary

Version	Date of Update	Sections Updated
0.0.2.1	26/04/2021	Regulation Change
0.0.3.1	03/05/2021	Regulation Change
0.0.4.1	06/05/2021	Regulation Change
0.0.5.1	10/05/2021	Regulation Change
0.0.5.2	30/05/2021	Template Change
0.0.5.3	04/06/2021	Template Change
0.0.5.4	05/06/2021	Template Change
0.0.6.4	07/06/2021	Regulation Change
0.0.6.5	09/06/2021	Template Change
0.0.6.6	11/06/2021	Template Change
0.0.6.7	15/06/2021	Template Change

Continued...

Version	Date of Update	Sections Updated
0.0.7.7	17/06/2021	Regulation Change
0.0.8.7	21/06/2021	Regulation Change

Other information

Ingredients with multiple cas numbers

Name	CAS No
calcium carbonate	471-34-1, 13397-26-7, 15634-14-7, 1317-65-3, 72608-12-9, 878759-26-3, 63660-97-9, 459411-10-0, 198352-33-9, 146358-95-4, 1357-85-3

Classification of the preparation and its individual components has drawn on official and authoritative sources 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.

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
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances