

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance/Mixture**

- Intermediate

1.3 Details of the supplier of the safety data sheet**Company**

CYTEC INDUSTRIES INC.
COMPOSITE MATERIALS
504 CARNEGIE CENTER PRINCETON, NJ 08540 USA
Tel: +1-833-970-1163

E-mail address

manager.sds@solvay.com

1.4 Emergency telephone number

+44(0)1235 239 671 [CareChem 24]

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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****GHS Classification (UN)**

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 3	H402: Harmful to aquatic life.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

GHS label elements (UN)**Hazardous products which must be listed on the label**

- ***** Vinyl silane
- CAS-No. 108-88-3 toluene
- CAS-No. 96-29-7 butanone oxime

Pictogram**Signal word**

- Danger

Hazard statements

- H226 Flammable liquid and vapour.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statementsGeneral

- None

Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- 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 CENTER/ doctor.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

None known.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical nature Silicone resin

Information on Components and Impurities

Chemical name	CAS-No.	GHS Classification	Concentration [%]
Vinyl silane	*****	Flammable liquids, Category 4 ; H227 Acute toxicity, Category 5 ; H303 Skin sensitization, Sub-category 1B ; H317 Serious eye damage, Category 1 ; H318 Specific target organ toxicity - repeated exposure, Category 2 ; H373 Short-term (acute) aquatic hazard, Category 3 ; H402	30 - 60
Organosilane	*****	Flammable liquids, Category 4 ; H227 Skin irritation, Category 2 ; H315 Serious eye damage, Category 1 ; H318 Skin sensitization, Sub-category 1B ; H317 Short-term (acute) aquatic hazard, Category 2 ; H401 Long-term (chronic) aquatic hazard, Category 2 ; H411	10 - 20
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	CAS-No. : 68909-20-6	Not classified	7 - 13
tetraethyl orthosilicate	CAS-No. : 78-10-4	Flammable liquids, Category 3 ; H226 Skin irritation, Category 3 ; H316 Eye irritation, Category 2A ; H319 Acute toxicity, Category 4 ; H332 Specific target organ toxicity - single exposure, Category 3 ; H335	1 - 5
titanium dioxide	CAS-No. : 13463-67-7	Not classified	1 - 5
butanone oxime	CAS-No. : 96-29-7	Flammable liquids, Category 4 ; H227 Acute toxicity, Category 5 ; H303 Acute toxicity, Category 4 ; H312 Serious eye damage, Category 1 ; H318 Skin sensitization, Sub-category 1B ; H317 Carcinogenicity, Category 2 ; H351 Short-term (acute) aquatic hazard, Category 3 ; H402	0.1 - 1

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

toluene	CAS-No. : 108-88-3	Flammable liquids, Category 2 ; H225 Reproductive toxicity, Category 2 ; H361d Aspiration hazard, Category 1 ; H304 Specific target organ toxicity - repeated exposure, Category 2 ; H373 (Central nervous system) Skin irritation, Category 2 ; H315 Specific target organ toxicity - single exposure, Category 3 ; H336 (Central nervous system) Short-term (acute) aquatic hazard, Category 2 ; H401 Long-term (chronic) aquatic hazard, Category 3 ; H412 Eye irritation, Category 2B ; H320	0.1 - 1
methanol	CAS-No. : 67-56-1	Flammable liquids, Category 2 ; H225 Acute toxicity, Category 3 ; H301 Acute toxicity, Category 3 ; H311 Acute toxicity, Category 3 ; H331 Eye irritation, Category 2B ; H320 Specific target organ toxicity - single exposure, Category 1 ; H370 (Central nervous system, optic nerve) Specific concentration limits: C: >= 10 %, Specific target organ toxicity - single exposure, Category 1; H370 C: 3 - < 10 %, Specific target organ toxicity - single exposure, Category 2; H371	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation

- Quickly move the person away from the contaminated area. Make the affected person rest.
- Immediate medical attention is required.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- Use appropriate protective equipment when treating a contaminated person.
- Always obtain medical attention.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Keep eye wide open while rinsing.
- Show this sheet to the doctor.
- Always obtain medical advice, even if there are no symptoms.
- Be prepared to provide first aid or medical support if necessary.

In case of ingestion

- Do NOT induce vomiting.
- Immediate medical attention is required.

PRCO90078217

Version : 1.00 / Z_UN (EN)

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- Show this sheet to the doctor.
- Do not give anything to drink.
- Be prepared to provide first aid or medical support if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- Effects on health may appear after prolonged or repeated exposure.
- The effects will depend on target organs.
- Chronic exposure is suspected of causing cancer on basis of animal data. Effects on human have not been proven.
- Chronic exposure is suspected of causing effects on fertility or on the unborn child on basis of animal data. Effects on human have not been proven.
- Chronic exposure may cause allergic dermatitis.
- Exposure may cause allergic rhinitis, conjunctivitis, asthma or shock.
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- In case of inhalation, irritation/corrosion of the respiratory tract.
- May cause irreversible skin damage.
- Chronic exposure may cause dermatitis.
- May cause irreversible eye damage.
- Loss of the eye

Symptoms

- Symptoms will depend on the target organs.
- Breathing difficulties
- Irritation
- Redness
- Swelling of tissue
- May cause respiratory tract irritation.
- allergic rhinitis
- Severe allergic skin reactions, bronchospasm and anaphylactic shock
- Itching
- Causes skin burns.
- Lachrymation
- Conjunctivitis
- Causes eye burns.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- Immediate medical attention is required.
- Consult with an ophthalmologist immediately in all cases.
- Burns must be treated by a physician.
- Treat symptomatically.
- Contact a poison control center.
- Keep under medical supervision for at least 48 hours.
- Contact the occupational physician in case of exposure.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Under fire conditions:
- Will burn

- On combustion, toxic gases are released.

5.3 Advice for firefighters

Special protective equipment for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- For further information refer to section 8 "Exposure controls/personal protection".

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Where exposure level is not known, wear approved, positive pressure, self-contained respirator.
- Where exposure level is known, wear approved respirator suitable for level of exposure.
- In addition to the protective clothing/equipment in Section 8, wear a two piece PVC suit with hood or PVC overalls with hood.

6.2 Environmental precautions

- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Contain the spilled material by bunding.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.

6.3 Methods and materials for containment and cleaning up

- Remove all sources of ignition.
- Stop leak if safe to do so.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Wash non-recoverable remainder with large amounts of water.
- Soak up with inert absorbent material and dispose of as hazardous waste.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Containers must be bonded and grounded when pouring or transferring material.
- This material contains a flammable or combustible liquid and vapor.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Observe the general rules of industrial fire protection.
- Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material's flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.
- Keep away from sources of ignition - No smoking.

Requirements for storage rooms and vessels

Storage period: < 3 Months

Recommended storage temperature: < -12.2 °C

- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

7.3 Specific end use(s)

- Contact your supplier for additional information

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Components with other occupational exposure limits**

Components	Value type	Value	Basis
Tetraethyl orthosilicate	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
Titanium oxide	TWA	10 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Expressed as :Titanium dioxide	
Toluene	TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)
Methanol	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Danger of cutaneous absorption	
Methanol	STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Danger of cutaneous absorption	
Trimethylated silica	TWA	4 mg/m ³	Solvay Acceptable Exposure Limit

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Biological Exposure Indices

Components	Value type	Value	Basis
Toluene	BEI	0.02 mg/l Toluene In blood Prior to last shift of workweek	ACGIH - Biological Exposure Indices (BEI)
Toluene	BEI	0.03 mg/l Toluene Urine End of shift (As soon as possible after exposure ceases)	ACGIH - Biological Exposure Indices (BEI)
Toluene	BEI	0.3 mg/g Creatinine o-Cresol Urine End of shift (As soon as possible after exposure ceases)	ACGIH - Biological Exposure Indices (BEI)
	Background With hydrolyses		
Methanol	BEI	15 mg/l Methanol Urine End of shift (As soon as possible after exposure ceases)	ACGIH - Biological Exposure Indices (BEI)

8.2 Exposure controls**Control measures****Engineering measures**

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures**Respiratory protection**

- Keep in a well-ventilated place.

Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Suitable material

- Nitrile or fluorinated rubber gloves.

Eye protection

- Chemical resistant goggles must be worn.
- Tightly fitting safety goggles

Skin and body protection

- Impervious clothing

PRCO90078217

Version : 1.00 / Z_UN (EN)

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DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

- Full protective suit
- Change working clothes after each workshift.
- Contaminated work clothing should not be allowed out of the workplace.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

<u>Appearance</u>	Form: viscous liquid
	Physical state: liquid
	Colour: white
<u>Odour</u>	pungent
<u>Odour Threshold</u>	No data available
<u>Molecular weight</u>	Mixture
<u>pH</u>	Not applicable
<u>Melting point/freezing point</u>	Melting point/range: Not applicable
<u>Initial boiling point and boiling range</u>	No data available
<u>Flash point</u>	52 °C Seta closed cup
<u>Evaporation rate (Butylacetate = 1)</u>	Not applicable
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability/Explosive limit</u>	Lower flammability/explosion limit: Type: Lower explosion limit Not applicable Upper flammability/explosion limit: Type: Upper flammability limit Not applicable
<u>Auto-ignition temperature</u>	No data available
<u>Vapour pressure</u>	Not applicable
<u>Vapour density</u>	Not applicable
<u>Density</u>	1.04 g/cm ³
<u>Relative density</u>	No data available
<u>Solubility</u>	Water solubility:

	Not applicable reacts with water
<u>Partition coefficient: n-octanol/water</u>	Not applicable
<u>Decomposition temperature</u>	No data available
<u>Self-Accelerating decomposition temperature (SADT)</u>	Not applicable
<u>Viscosity</u>	<u>Viscosity, kinematic</u> : Not applicable
<u>Explosive properties</u>	No data available
<u>Oxidizing properties</u>	No data available
9.2 Other information	
<u>Surface tension</u>	Not applicable
<u>Corrosion of Metals</u>	Not corrosive to metals
<u>Non Volatiles by Weight</u>	100 %

SECTION 10: Stability and reactivity

10.1 Reactivity

- no data available

10.2 Chemical stability

- Stable under normal conditions.

10.3 Possibility of hazardous reactions

- polymerisation**
- Hazardous polymerisation does not occur.

10.4 Conditions to avoid

- Keep away from heat, sparks and flame.

10.5 Incompatible materials

- none

10.6 Hazardous decomposition products

- Carbon dioxide (CO₂)
- Carbon monoxide
- Nitrogen oxides (NO_x)
- Silicon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Not classified as hazardous for acute oral toxicity according to GHS.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Acute inhalation toxicity	Not classified as hazardous for acute inhalation toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute dermal toxicity	Not classified as hazardous for acute dermal toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute toxicity (other routes of administration)	Not applicable
<u>Skin corrosion/irritation</u>	Irritating to skin. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>Serious eye damage/eye irritation</u>	Risk of serious damage to eyes. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>Respiratory or skin sensitisation</u>	
Vinyl silane	By analogy Maximisation Test - Guinea pig Classified as a skin sensitizer sub-category 1B according to GHS criteria Method: OECD Test Guideline 406 Unpublished reports
Organosilane tetraethyl orthosilicate	Classified as a skin sensitizer sub-category 1B according to GHS criteria Buehler Test - Guinea pig Does not cause skin sensitisation. Method: OECD Test Guideline 406
butanone oxime	Maximisation Test - Guinea pig Dermal ≥ 30 % responding at > 1 % intradermal induction dose Method: OECD Test Guideline 406 Unpublished reports
toluene	Maximisation Test - Guinea pig Does not cause skin sensitisation. Unpublished reports
methanol	Magnusson and Kligman method - Guinea pig Responding animals in GPMT < 30% The substance or mixture is not considered to be sensitizing by skin contact. Method: OECD Test Guideline 406 Unpublished reports
<u>Mutagenicity</u>	
Genotoxicity in vitro	Product is not considered to be genotoxic According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Genotoxicity in vivo

Product is not considered to be genotoxic
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Carcinogenicity

butanone oxime

Rat , male
inhalation (vapour)
NOAEC: 270mg/m³
Target Organs: Liver
Method: according to a standardised method
carcinogenic effects
Published data

Rat , female
inhalation (vapour)
NOAEC: 1,350mg/m³
Target Organs: Liver
Method: according to a standardised method
No carcinogenic effects have been observed
Published data

Mouse , male
inhalation (vapour)
NOAEC: 270mg/m³
Target Organs: Liver
Method: according to a standardised method
carcinogenic effects
Published data

Mouse , female
inhalation (vapour)
NOAEC: 1,350mg/m³
Target Organs: Liver
Method: according to a standardised method
No carcinogenic effects have been observed
Published data

toluene

Rat
inhalation (vapour)
Method: according to a standardised method
No carcinogenic effects have been observed
Unpublished reports
Published data

methanol

Rat , male and female
inhalation (vapour)
Method: OECD Test Guideline 453
Benign tumours were observed at a high level of exposure.
The product is not considered to be carcinogenic.
Published data

Mouse , male and female
inhalation (vapour)
Method: OECD Test Guideline 453
No carcinogenic effects have been observed
Published data

Toxicity for reproduction and development**Toxicity to reproduction/Fertility**

PRCO90078217

Version : 1.00 / Z_UN (EN)

www.solvay.com



DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Vinyl silane	<p>Two-generation reproductive toxicity - Rat, male and female, Oral General Toxicity - Parent NOAEL: 10 mg/kg bw/day Fertility NOAEL Parent: 200 mg/kg bw/day</p> <p>General Toxicity F1 NOAEL: 10 mg/kg bw/day Developmental Toxicity NOAEL F1: 200 mg/kg bw/day</p> <p>Method: OECD Test Guideline 416 Gavage, Hydrolysis products, Highest dose tested, no impairment of fertility has been observed, Unpublished reports</p> <p>By analogy</p> <p>Reproduction/developmental toxicity screening test - Rat, male and female, Oral Method: OECD Test Guideline 422 Gavage, no impairment of fertility has been observed, Unpublished reports</p>
tetraethyl orthosilicate	<p>Reproduction/developmental toxicity screening test - Rat, male and female, Oral Fertility NOAEL Parent: 100 mg/kg Method: OECD Test Guideline 422</p>
butanone oxime	<p>Fertility study 2 generations - Rat, male and female, Oral General Toxicity - Parent LOAEL: 10 mg/kg bw/day Fertility NOAEL Parent: \geq 200 mg/kg bw/day Method: according to a standardised method Gavage, no impairment of fertility has been observed, Published data, Unpublished reports</p> <p>Fertility study 2 generations - Rat, male and female, Oral Fertility NOAEL F1: \geq 200 mg/kg bw/day Developmental Toxicity NOAEL F1: \geq 200 mg/kg bw/day Method: according to a standardised method Gavage, no impairment of fertility has been observed, Published data, Unpublished reports</p> <p>Fertility study 2 generations - Rat, male and female, Oral Developmental Toxicity NOAEL F2: \geq 200 mg/kg bw/day Method: according to a standardised method Gavage, no impairment of fertility has been observed, Published data, Unpublished reports</p>
toluene	<p>Rat, inhalation (vapour) General Toxicity - Parent NOAEL: 7,500 mg/m³ General Toxicity F1 NOAEL: 1,875 mg/m³ General Toxicity F2 NOAEL: 1,875 mg/m³ Method: OECD Test Guideline 416 Published data</p>
methanol	<p>Fertility study 2 generations - Rat, male and female, Inhalation General Toxicity - Parent NOAEL: 1.3 mg/l General Toxicity F1 NOAEL: 0.13 mg/l General Toxicity F2 NOAEL: 0.13 mg/l Method: OECD Test Guideline 416 Published data</p> <p>Fertility study 1 generation - Monkey, female, Inhalation General Toxicity - Parent NOAEL: 2.39 mg/l Published data</p>

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Developmental Toxicity/Teratogenicity

Vinyl silane

Rat, male and female, Oral

General Toxicity Maternal LOAEL: 60 mg/kg bw/day

Teratogenicity NOAEL F1:600mg/kg bw/day

Developmental Toxicity NOAEL F1: 600 mg/kg bw/day

Embryo-foetal toxicity NOAEL F1: 600 mg/kg bw/day

Method: OECD Test Guideline 414

Gavage, Hydrolysis products, no embryotoxic or teratogenic effects have been observed, Highest dose tested, Unpublished reports

By analogy

Rat, male and female, Oral

Method: OECD Test Guideline 422

Gavage, No effect observed on development, Unpublished reports

Organosilane

Information given is based on data obtained from similar substances., No effect observed on development

tetraethyl orthosilicate

Rat, male and female, Oral

Teratogenicity NOAEC:100mg/kg bw/day

Method: OECD Test Guideline 422

Reproduction/developmental toxicity screening test

butanone oxime

Rat, Oral

General Toxicity Maternal LOAEL: 60 mg/kg bw/day

Teratogenicity NOAEL F1:600mg/kg bw/day

Developmental Toxicity NOAEL F1: 600 mg/kg bw/day

Method: OECD Test Guideline 414

no teratogenic effects have been observed, Unpublished reports, Gavage, Published data

toluene

Rat, inhalation (vapour)

General Toxicity Maternal NOAEC: 2,812 mg/m³Teratogenicity NOAEC:2,812mg/m³

Method: according to a standardised method

Published data, Possible risk of harm to the unborn child.

Rat, inhalation (vapour)

General Toxicity Maternal NOAEC: 2,261 mg/m³Teratogenicity NOAEC:4,522mg/m³

Published data, Possible risk of harm to the unborn child.

methanol

Rat, Oral

General Toxicity Maternal NOAEL: 2,054 mg/kg bw/day

Method: OECD Test Guideline 414

Developmental toxicity was observed in the presence of maternal toxicity., Published data

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Rat, Oral
 General Toxicity Maternal LOAEL: 1,027 mg/kg bw/day
 Teratogenicity LOAEL:1,027mg/kg bw/day
 Developmental toxicity was observed in the presence of maternal toxicity.,
 Published data

Mouse, male and female, Inhalation
 General Toxicity Maternal NOAEL: 19.94 mg/l
 Teratogenicity NOAEL:1.33mg/l
 Method: OECD Test Guideline 414
 Vapour, Published data

Rat, Inhalation
 General Toxicity Maternal NOAEL: > 1.33 mg/l
 Teratogenicity NOAEL:> 1.33mg/l
 Method: OECD Test Guideline 414
 Vapour, Developmental toxicity was observed in the presence of maternal toxicity.,
 Published data

Rat, Inhalation
 General Toxicity Maternal LOAEL: 6.65 mg/l
 Teratogenicity LOAEL:6.65mg/l
 Method: OECD Test Guideline 414
 Developmental toxicity was observed in the presence of maternal toxicity.,
 Published data

STOT**STOT - single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
 According to the available data on the components.
 According to the classification criteria for mixtures.
 Unpublished reports and/or published data.

STOT - repeated exposure

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2 according to GHS criteria.
 According to the available data on the components.
 According to the classification criteria for mixtures.
 Unpublished reports and/or published data.

The product itself has not been tested.

Experience with human exposure**Experience with human exposure : Inhalation**

No data is available on the product itself.

Experience with human exposure : Skin contact

No data is available on the product itself.

Experience with human exposure : Eye contact

No data is available on the product itself.

Experience with human exposure : Ingestion

No data is available on the product itself.

CMR effects**Carcinogenicity**

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

butanone oxime	Classified as carcinogen category 2 according to GHS criteria
Mutagenicity	
Vinyl silane	Not classified as mutagen according to GHS criteria.
butanone oxime	Not classified as mutagen according to GHS criteria.
Teratogenicity	
Vinyl silane	Not classified as toxic for the reproduction (development) according to GHS criteria
butanone oxime	Classification not possible from current data
toluene	Classified as toxic for the reproduction in Category 2 (development) according to GHS criteria
Reproductive toxicity	
Vinyl silane	Not classified as toxic for the reproduction (fertility and/or development) according to GHS criteria
butanone oxime	Classification not possible from current data
<u>Aspiration toxicity</u>	No aspiration toxicity classification, According to the available data on the components, According to the classification criteria for mixtures.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment**

Acute toxicity to fish	The product itself has not been tested.
Acute toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested.
Toxicity to aquatic plants	The product itself has not been tested.
Toxicity to microorganisms	The product itself has not been tested.
Chronic toxicity to fish	The product itself has not been tested.
Chronic toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested.

Sediment compartment

Toxicity to benthic organisms	The product itself has not been tested.
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Terrestrial Compartment

Toxicity to soil dwelling organisms	The product itself has not been tested.
Toxicity to terrestrial plants	The product itself has not been tested.
Toxicity to above ground organisms	The product itself has not been tested.

12.2 Persistence and degradability**Abiotic degradation**

Stability in water	Conclusion is not possible for a mixture as a whole.
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DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

Photodegradation Conclusion is not possible for a mixture as a whole.

Other Physico-Chemical reactions Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability Conclusion is not possible for a mixture as a whole.

Biodegradation

Biodegradability As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).

Ratio BOD/COD Conclusion is not possible for a mixture as a whole.

Ratio BOD/ThOD Conclusion is not possible for a mixture as a whole.

Biochemical Oxygen Demand (BOD) Conclusion is not possible for a mixture as a whole.

Dissolved organic carbon (DOC) Conclusion is not possible for a mixture as a whole.

Chemical Oxygen Demand (COD) Conclusion is not possible for a mixture as a whole.

Adsorbed organic bound halogens (AOX) Conclusion is not possible for a mixture as a whole.

Degradability assessment

Conclusion is not possible due to incomplete or heterogeneous data on the components
Unpublished reports
Published data

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water Conclusion is not possible for a mixture as a whole.

Bioconcentration factor (BCF) As bioaccumulation is not relevant for mixtures, all the components of the mixture were assessed individually.
Conclusion is not possible due to incomplete or heterogeneous data on the components
Unpublished reports
Published data

12.4 Mobility in soil

Adsorption potential (Koc) Conclusion is not possible for a mixture as a whole.

Known distribution to environmental compartments

Silanamine, 1,1,1-trimethyl-N-

(trimethylsilyl)-, hydrolysis products with silica

Soil

methanol

Ultimate destination of the product : Air

Water

12.5 Results of PBT and vPvB assessment

According to the available data on the components
This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Ecotoxicity assessment**

Short-term (acute) aquatic hazard	Harmful to aquatic life. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Long-term (chronic) aquatic hazard	Harmful to aquatic life with long lasting effects. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14: Transport information**IMDG**

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Ethyl silicate)
IMDG Code segregation group	Not Relevant
14.3 Transport hazard class	3
Label(s):	3
14.4 Packing group	
Packing group	III
14.5 Environmental hazards	NO
Marine pollutant	
14.6 Special precautions for user	
EmS	F-E , S-E

For personal protection see section 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

IATA

14.1 UN number	UN 1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Ethyl silicate)
14.3 Transport hazard class	3
Label(s):	3
14.4 Packing group	
Packing group	III

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

14.5 Environmental hazards NO

14.6 Special precautions for user

Packing instruction (cargo aircraft) 366
 Max net qty/pkg 220.00 L
 Packing instruction (passenger aircraft) 355
 Max net qty/pkg 60.00 L

For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Local regulations**

No data available

Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

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Version : 1.00 / Z_UN (EN)

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SECTION 16: Other information**Full text of H-Statements**

- H225: Highly flammable liquid and vapour.
- H226: Flammable liquid and vapour.
- H227: Combustible liquid.
- H301: Toxic if swallowed.
- H303: May be harmful if swallowed.
- H304: May be fatal if swallowed and enters airways.
- H311: Toxic in contact with skin.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H316: Causes mild skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H320: Causes eye irritation.
- H331: Toxic if inhaled.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H351: Suspected of causing cancer.
- H361: Suspected of damaging fertility or the unborn child.
- H361d: Suspected of damaging the unborn child.
- H370: Causes damage to organs.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H401: Toxic to aquatic life.
- H402: Harmful to aquatic life.
- H411: Toxic to aquatic life with long lasting effects.
- H412: Harmful to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet

- SAEL: Solvay Acceptable Exposure Limit
- STEL: Short-term exposure limit
- TWA: 8-hour, time-weighted average
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

Further information

- Distribute new edition to clients

DAPCO™ 2100 PRIMERLESS FIREWALL SEALANT, PART B

Revision Date 10.08.2020

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.