SAFETY DATA SHEET
Carmo PVC Seal 06-926

This product is intended for professional use only and cannot be re-sold for commercial use.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Carmo PVC Seal 06-926

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

Identified uses Polyurethane based Contact Adhesive

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

CARMO A/S
Højvangen 19
DK-3060 Espergærde
Denmark

+45 4912 2100
+45 4912 2199
denmark@carmo.dk

1.4. Emergency telephone number

Emergency telephone +45 4912 2100

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 2 - H225

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Repr. 2 - H361d STOT SE 3 - H336 STOT RE 2 - H373

Environmental hazards Not Classified

Human health The liquid is irritating to eyes and skin. Contains a substance/a group of substances which may damage the unborn child. The product contains a sensitising substance.

Environmental The product is not expected to be hazardous to the environment.

Physicochemical The product is highly flammable. Vapours may form explosive mixtures with air.

2.2. Label elements

Pictogram

Signal word Danger

Carmo PVC Seal 06-926

Hazard statements	H225 Highly flammable liquid and vapour. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H361d Suspected of damaging the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. EUH208 Contains 2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL, EPOXY RESIN (Number average MW <= 700). May produce an allergic reaction.
Precautionary statements	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. P243 Take precautionary measures against static discharge. P261 Avoid breathing vapour/ spray. P314 Get medical advice/ attention if you feel unwell. P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Contains	ACETONE, BUTANONE, TOLUENE
Supplementary precautionary statements	P201 Obtain special instructions before use. P240 Ground/ bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use only non-sparking tools. P260 Do not breathe vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/ attention. P312 Call a POISON CENTER/ doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P332+P313 If skin irritation occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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ACETONE **35-50%**

CAS number: 67-64-1 EC number: 200-662-2 REACH registration number: 01-2119471330-49

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336

BUTANONE **20-35%**

CAS number: 78-93-3 EC number: 201-159-0 REACH registration number: 01-2119457290-43

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336

TOLUENE **10-20%**

CAS number: 108-88-3 EC number: 203-625-9 REACH registration number: 01-2119471310-51

Classification
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315
Repr. 2 - H361d
STOT SE 3 - H336
STOT RE 2 - H373
Asp. Tox. 1 - H304

2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL **<1%**

CAS number: 2440-22-4 EC number: 219-470-5 REACH registration number: 01-2119583811-34-0000&-0001

M factor (Chronic) = 1

Classification
Acute Tox. 4 - H312
Skin Sens. 1 - H317
Aquatic Chronic 1 - H410

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EPOXY RESIN (Number average MW <= 700)		<1%
CAS number: 25068-38-6	EC number: 500-033-5	REACH registration number: 01-2119456619-26

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

Composition comments The product contains organic solvents.

Chemical Nature

chemical nature

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Move affected person to fresh air at once. Get medical attention if any discomfort continues.

Inhalation Move affected person to fresh air at once. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention immediately.

Skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves.

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

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Vapours may cause headache, fatigue, dizziness and nausea.

Ingestion May cause discomfort if swallowed.

Skin contact Skin irritation.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

Specific treatments Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with the following media: Foam. Dry chemicals, sand, dolomite etc.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Oxides of carbon. The product is highly flammable. May explode when heated or when exposed to flames or sparks.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. Do not enter storage areas or confined spaces unless adequately ventilated.

Special protective equipment for firefighters Use air-supplied respirator, gloves and protective goggles.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

For non-emergency personnel Wear protective clothing as described in Section 8 of this safety data sheet.

For emergency responders Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Keep away from heat, sparks and open flame. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level.

Advice on general occupational hygiene When using do not eat, drink or smoke. Provide eyewash station. Wash promptly with soap and water if skin becomes contaminated. Use appropriate hand lotion to prevent defatting and cracking of skin.

7.2. Conditions for safe storage, including any incompatibilities

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Storage precautions Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 5°C and 25°C.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

Usage description Adhesive.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

ACETONE

Long-term exposure limit (8-hour TWA): WEL 500 ppm 1210 mg/m³
Short-term exposure limit (15-minute): WEL 1500 ppm 3620 mg/m³

BUTANONE

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 600 mg/m3(Sk)
Short-term exposure limit (15-minute): WEL 300 ppm(Sk) 899 mg/m3(Sk)

TOLUENE

Long-term exposure limit (8-hour TWA): 50 191
Short-term exposure limit (15-minute): 100 384

2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL

Long-term exposure limit (8-hour TWA): WEL 1 mg/m3(Sk)

DIBUTYLTIN DILAURATE

Long-term exposure limit (8-hour TWA): WEL 0.1 mg/m3(Sk)
Short-term exposure limit (15-minute): WEL 0.2 mg/m3(Sk)
WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

ACETONE (CAS: 67-64-1)

Ingredient comments WEL = Workplace Exposure Limits

DNEL
Industry - Dermal; Short term systemic effects: 186 mg/m³
Industry - Inhalation; Short term local effects: 2420 mg/m³
Industry - Inhalation; Long term systemic effects: 1210 mg/m³
Consumer - Dermal; Long term systemic effects: 62 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 200 mg/m³
Consumer - Oral; Long term systemic effects: 62 mg/m³
Industry - Dermal; Long term systemic effects: 186 mg/kg/day

PNEC
- Fresh water; 10.6 mg/l
- Marine water; 1.06 mg/l
- Sediment (Freshwater); 30.4 mg/kg
- Sediment (Marinewater); 3.04 mg/kg
- Soil; 29.5 mg/kg
- STP; 100 mg/l

BUTANONE (CAS: 78-93-3)

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DNEL

Consumer - Oral; Long term systemic effects: 31 mg/kg/day
Consumer - Dermal; Long term systemic effects: 412 mg/kg/day
Industry - Dermal; Long term systemic effects: 1161 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 106 mg/m³
Industry - Inhalation; Long term systemic effects: 600 mg/m³

PNEC

- Fresh water; 55.8 mg/l
- Marine water; 55.8 mg/l
- Intermittent release; 55.8 mg/l
- STP; 709 mg/l
- Sediment (Marinewater); 284.7 mg/kg
- Soil; 22.5 mg/kg
- Sediment (Freshwater); 284.7 mg/kg

TOLUENE (CAS: 108-88-3)

DNEL

Consumer - Oral; Long term systemic effects: 8.13 mg/m³
Industry - Dermal; Long term systemic effects: 384 mg/kg/day
Consumer - Inhalation; Short term local effects: 226 mg/m³
Consumer - Inhalation; Short term systemic effects: 226 mg/m³
Industry - Inhalation; Short term systemic effects: 384 mg/m³
Industry - Inhalation; Short term local effects: 384 mg/m³
Industry - Inhalation; Long term local effects: 192 mg/m³
Consumer - Inhalation; Long term systemic effects: 56.5 mg/m³
Industry - Inhalation; Long term systemic effects: 192 mg/m³

PNEC

- Fresh water; 0.68 mg/l
- Sediment (Freshwater); 16.39 mg/kg
- STP; 13.61 mg/l
- Soil; 2.89 mg/kg

EPOXY RESIN (Number average MW <= 700) (CAS: 25068-38-6)

DNEL

- Dermal; : 8.33 mg/kg/day
- Inhalation; : 12.25 mg/m³

PNEC

- STP; 10 mg/l
- Fresh water; 0.006 mg/l
- Sediment (Freshwater); 0.0627 mg/kg
- Marine water; 0.0006 mg/l
- Sediment (Marinewater); 0.00627 mg/kg
- Soil; 0.0478 mg/kg

DIBUTYLTIN DILAURATE (CAS: 77-58-7)

DNEL

Industry - Dermal; Short term : 1 mg/kg/day
Industry - Inhalation; Short term : 0.07 mg/m³
Industry - Dermal; Long term : 0.2 mg/kg/day
Industry - Inhalation; Long term 9.0 - 10.0, ISO 976: 0.01 mg/m³
Consumer - Dermal; Short term : 0.5 mg/kg/day
Consumer - Inhalation; Short term : 0.02 mg/m³
Consumer - Oral; Short term : 0.01 mg/kg/day
Consumer - Dermal; Long term : 0.08 mg/kg/day
Consumer - Inhalation; Long term : 0.003 mg/m³

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PNEC	Industry - Fresh water; 0.000463 mg/l Industry - Marine water; 0.0000463 mg/l Industry - STP; 100 mg/l Industry - Soil; 0.0407 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used. Use explosion-proof general and local exhaust ventilation.
Eye/face protection	The following protection should be worn: Chemical splash goggles or face shield. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	It is recommended that gloves are made of the following material: Butyl rubber. To protect hands from chemicals, gloves should comply with European Standard EN374. When used with mixtures, the protection time of gloves cannot be accurately estimated. The selected gloves should have a breakthrough time of at least 4 hours.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
Hygiene measures	Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. Do not eat, drink or smoke when using this product.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P3. Gas and combination filter cartridges should comply with European Standard EN14387. Disposable filtering half mask respirators should comply with European Standard EN149 or EN405. Check that the respirator fits tightly and the filter is changed regularly.
Thermal hazards	Contact with hot product can cause serious thermal burns.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Light (or pale).
Odour	Ketonic.

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Odour threshold	Not available.
pH	Not relevant.
Melting point	Not applicable.
Initial boiling point and range	79.6°C @
Flash point	- 17°C CC (Closed cup).
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 13 Lower flammable/explosive limit: 1
Other flammability	Not applicable.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.868 @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	3,000- - 3,500 cP @ 23°C
Explosive properties	Not determined.
Explosive under the influence of a flame	Yes
Oxidising properties	Not determined.
Comments	Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.

9.2. Other information

Refractive index	Not relevant.
Particle size	Not available.
Molecular weight	Not available.
Volatility	Highly volatile.
Saturation concentration	Not available.
Critical temperature	Not available.
Volatile organic compound	This product contains a maximum VOC content of 676 g/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

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Reactivity The reactivity data for this product will be typical of those for the following class of materials: Flammable/combustible materials. Ketones. Organic solvents.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions In use may form flammable/explosive vapour-air mixture.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight. Static electricity and formation of sparks must be prevented. Containers can burst violently or explode when heated, due to excessive pressure build-up. Keep at temperature not exceeding 25°C.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Carbon dioxide (CO2). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Not determined.

Acute toxicity - dermal

Notes (dermal LD_{50}) Not determined.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Not determined.

Skin corrosion/irritation

Skin corrosion/irritation Skin irritation.

General information Contains epoxy constituents. May produce an allergic reaction. Suspected of damaging the unborn child.

Inhalation Harmful: danger of serious damage to health by prolonged exposure through inhalation. Vapours may cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure if inhaled.

Ingestion May cause stomach pain or vomiting.

Skin contact The product contains a small amount of sensitising substance. The product contains organic solvents. Irritating to skin.

Eye contact May cause severe eye irritation.

Acute and chronic health hazards Contains a substance/a group of substances which may damage the unborn child.

Route of entry Skin absorption Inhalation

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ACETONE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,800.0
Species	Rat
ATE oral (mg/kg)	5,800.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	7,400.0
Species	Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	76.0
Species	Rat
ATE inhalation (vapours mg/l)	76.0

BUTANONE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,193.0
Species	Rat
ATE oral (mg/kg)	2,193.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,050.0
Species	Rabbit
ATE dermal (mg/kg)	5,050.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	5,000.0
Species	Rat
ATE inhalation (vapours mg/l)	5,000.0

TOLUENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	4,328.0
Species	Rat

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ATE oral (mg/kg)	4,328.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	6,000.0
Species	Rabbit
ATE dermal (mg/kg)	6,000.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} vapours mg/l)	21.0
Species	Rat
ATE inhalation (vapours mg/l)	21.0

2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	2,500.0
Species	Rat
ATE oral (mg/kg)	2,500.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	1,500.0
Species	Rat
ATE dermal (mg/kg)	1,500.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} dust/mist mg/l)	650.0
Species	Rat
ATE inhalation (dusts/mists mg/l)	600.0

EPOXY RESIN (Number average MW <= 700)

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	15,000.0
Species	Rat
ATE oral (mg/kg)	15,000.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	23,000.0

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Species	Rat
ATE dermal (mg/kg)	23,000.0

bisphenolF-epoxy resin

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,000.0
Species	Rat

DIBUTYLTIN DILAURATE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,071.0
Species	Rat
Notes (oral LD_{50})	9.0 - 10.0, ISO 976
ATE oral (mg/kg)	2,071.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,001.0
Species	Rat
ATE dermal (mg/kg)	2,001.0

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Not relevant.

Serious eye damage/irritation

Serious eye damage/irritation	Corrosive to skin. Corrosivity to eyes is assumed. No testing is needed.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: 9.0 - 10.0, ISO 976 Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Chromosome aberration: Positive.

Carcinogenicity

Carcinogenicity	NOAEL 133 ppm, Oral, Rat NOAEL 152 ppm, Oral, Mouse There is no evidence that the product can cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility	One-generation study - NOAEL 0.3 mg/kg, Oral, Rat Known reproductive toxicant based on animal evidence.
Reproductive toxicity - development	Teratogenicity: - NOAEL: 5 mg/kg, Oral, Rat Known reproductive toxicant based on animal evidence.

Specific target organ toxicity - single exposure

STOT - single exposure	Not determined.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL 0.3 mg/kg, Oral, Rat
Target organs	Glands

Aspiration hazard

Aspiration hazard	Kinematic viscosity > 20.5 mm²/s.

SECTION 12: Ecological Information

Ecotoxicity	Dangerous for the environment if discharged into watercourses. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity	Not considered toxic to fish.
Acute toxicity - fish	Not determined.
Acute toxicity - aquatic invertebrates	Not determined.
Acute toxicity - aquatic plants	Not determined.
Acute toxicity - microorganisms	Not determined.
Acute toxicity - terrestrial	Not determined.
Chronic toxicity - fish early life stage	Not determined.
Short term toxicity - embryo and sac fry stages	Not determined.
Chronic toxicity - aquatic invertebrates	Not determined.

ACETONE

Acute toxicity - fish	LC50, 96 hours: 5540 mg/l, Onchorhynchus mykiss (Rainbow trout) LC50, 96 hours: 8,300 mg/l, Lepomis macrochirus (Bluegill) LC_{50}, 96 hours: >100 mg/l, Algae
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 8,800 mg/l, Daphnia magna
Acute toxicity - aquatic plants	NOEC, 96 hours: 430 mg/l, Freshwater algae IC_{50}, 72 hours: >100 mg/l, Fish
Chronic toxicity - aquatic invertebrates	NOEC, 28 days: 10-<100 mg/l, Freshwater invertebrates

BUTANONE

Acute toxicity - fish	LC50, 96 hours: 2993 mg/l, Pimephales promelas (Fat-head Minnow) LC50, 48 hours: > 100 mg/l, Leuciscus idus (Golden orfe)

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Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 308 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 96 hours: 2029 , Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	EC_{50}, 96 hours: > 50 mg/l, Activated sludge

TOLUENE

Acute toxicity - fish	LC50, 96 hours: 13 mg/l, Carassius auratus (Goldfish) LC50, 96 hours: 24 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 11.5 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC_{50}, 72 hours: 12 mg/l, Selenastrum capricornutum
Acute toxicity - microorganisms	NOEC, : 29 mg/l, Activated sludge

2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL

Acute toxicity - fish	LC_{50}, 96 hours: >100 mg/l, Algae
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: >1,000 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC_{50}, 72 hours: >100 mg/l, Fish

Chronic aquatic toxicity

NOEC	0.001 < NOEC ≤ 0.01
Degradability	Rapidly degradable
M factor (Chronic)	1

EPOXY RESIN (Number average MW <= 700)

Acute toxicity - fish	LC50, 96 hours: 2.0 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 1.8 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 96 hours: 11.0 mg/l, Freshwater algae

bisphenolF-epoxy resin

Acute toxicity - fish	LC50, 96 hours: > 100 mg/l, Leuciscus idus (Golden orfe)
Acute toxicity - aquatic invertebrates	EC_{50}, 96 hours: > 100 mg/l, Daphnia magna

DIBUTYLTIN DILAURATE

Acute aquatic toxicity

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$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 3.1 mg/l, Algae
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: < 0.463 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: > 1 mg/l, Freshwater plants
Chronic aquatic toxicity	
M factor (Chronic)	1

12.2. Persistence and degradability

Persistence and degradability	The product is expected to be biodegradable.
Phototransformation	Not relevant.
Stability (hydrolysis)	Not determined.
Biodegradation	Not determined.
Biological oxygen demand	Not determined.
Chemical oxygen demand	Not determined.

ACETONE

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation (%) : days readily biodegradable - Degradation (%) 91: 28 days readily biodegradable
Biological oxygen demand	1.9 g O_2/g substance
Chemical oxygen demand	2.1 g O_2/g substance

BUTANONE

Persistence and degradability	The product is biodegradable.
Biodegradation	Water - Degradation (%) 98: 28 days readily biodegradable

TOLUENE

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation (%) 86: 20 days readily biodegradable
Biological oxygen demand	1.23 g O_2/g substance

12.3. Bioaccumulative potential

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Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient Not available.

ACETONE

Bioaccumulative potential The product is not bioaccumulating. BCF: < 10, Will not accumulate

BUTANONE

Bioaccumulative potential The product is not bioaccumulating.

TOLUENE

Bioaccumulative potential The product is not bioaccumulating. BCF: ,

DIBUTYLTIN DILAURATE

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient log Kow: 4.44

12.4. Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

Adsorption/desorption coefficient Not determined.

Henry's law constant Not determined.

Surface tension Not determined.

BUTANONE

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

TOLUENE

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

ACETONE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

BUTANONE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

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TOLUENE

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects	None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Waste class	08 04 09 MH

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1133
UN No. (IMDG)	1133
UN No. (ICAO)	1133

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ADHESIVES
Proper shipping name (IMDG)	ADHESIVES
Proper shipping name (ICAO)	ADHESIVES
Proper shipping name (ADN)	ADHESIVES

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID label	3
IMDG class	3
ICAO class/division	3

Transport labels

14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-E, S-D
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended). EH40/2005 Workplace exposure limits. Health and Safety at Work etc. Act 1974 (as amended).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131.
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006)	No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
GHS: Globally Harmonized System.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
SVHC: Substances of Very High Concern.
vPvB: Very Persistent and Very Bioaccumulative.
IARC: International Agency for Research on Cancer.
cATpE: Converted Acute Toxicity Point Estimate.
BCF: Bioconcentration Factor.
BOD: Biochemical Oxygen Demand.
EC_{50}: 50% of maximal Effective Concentration.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
LOEC: Lowest Observed Effect Concentration.
DMEL: Derived Minimal Effect Level.
UN: United Nations.

Key literature references and sources for data

Dangerous Properties of Industrial Materials Report, N.Sax et.al.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

30/11/2017

Revision

12

Supersedes date

17/05/2016

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Hazard statements in full

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.
EUH208 Contains 2-(2H-BENZOTRIAZOL-2YL)-p-CRESOL, EPOXY RESIN (Number average MW <= 700). May produce an allergic reaction.