



constructing the food industry

flooring and drainage
Food-Seal™

Highly Flexible Coloured Joint Sealant

Description

FOOD-SEAL™ is a pourable, thixotropic, coloured, two part, solvent free, urethane modified epoxy joint sealant for sealing movement joints in flooring and civil engineering applications.

The material is designed to provide the highest order of durability together with a high degree of flexibility.

Typical Uses

As a coloured safe joint sealant for use in food factories, abattoirs, dairies, changing rooms, kitchens and cold stores etc.

Appearance

FOOD-SEAL™ can be manufactured in a full range of colours to suit its environment and a clients particular requirements.

Substrates

Concrete, asphalt, polymer reinforced screeds, grano concrete, epoxy and polyurethane flooring.

Advantages

- Excellent adhesion to dry surfaces.
- Low odour and easily applied.
- Taint free
- Excellent resistance to water (when cured), oils, skydrol, petrol, diluted acids, alkalis and many solvents.

Physical Properties

Colours: Light, Mid & Dark Grey, Safety Red & Tile Red, Safety Yellow & Mustard Yellow, Light & Dark Green, Ocean Blue (other colours are available on request).

Pot Life: 20 minutes @ 20°C

Application Temperatures: Minimum 5°C – Maximum 30°C.

Tensile Strength: 15.9 MPa

Elongation: 66%

Shore D Hardness: 63

Initial Cure to Traffic @ 20°C: 24 hours.

Full Cure @ 20°C: 4 days.

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1) Surface preparation

All surfaces should be structurally sound with a clean, dry surface (less than 75% RH) and be free from dust, laitance, oil, paint or other forms of contamination. Polyurethane joint backing rod should be used in joints over 12mm wide and be tightly packed in to the joint. Bond breaker tape is advised where backing rod is not used at the base of the joint to prevent sealant adhesion. The width:depth ratio of the joint should be 2:1 subject to a minimum depth of 10mm. Below 10mm depth, a ratio of 1:1 may be employed.

2) Mixing

Pour the contents of the FOOD-SEAL™ base resin component into the FOOD-SEAL™ hardener component container or a suitable clean vessel and mix by mechanical means until a uniform colour and appearance is obtained.

Periodically scrape the bottom and sides of the mixing vessel to ensure completely mixed material.

3) Priming

For application to damp substrates, dry off all surface moisture and then prime the joint detail using a brush with FOOD-PRIME™ epoxy primer and allow the primer to become tacky before application of the FOOD-SEAL™ joint sealant.

4) Application Techniques

Apply in temperatures between 5°C and 30°C. Do not apply if the ambient or floor temperature is likely to drop below 5°C within the next 24 hours. When applying externally, do not apply if precipitation or condensation is likely.

Immediately after mixing, pour FOOD-SEAL™ in to the joint detail to finish approximately 1mm below the finished floor level. Joint edges may be masked with tape which should be removed before initial cure has taken place. FOOD-SEAL™ should then be tooled off to a smooth finish once in place.

5) Equipment Cleaning

All tools and equipment are to be cleaned with a suitable tool cleaning solvent prior to curing of the resin, if cured the resin will have to be removed by mechanical means.

6) Curing

Allow to cure for a minimum of 24 hours @ 20°C prior to foot traffic, and for a minimum of 48 hours prior to normal vehicular traffic. Full chemical resistance will be achieved following 4 days cure @ 20°C .

7) Coverage

FOOD-SEAL™ may be applied to joints between 5mm and 50mm width. A 1 Kg unit yields approximately 950ml and a 2.5 Kg kit will yield approximately 2375ml. To determine the amount of sealant required (in ml) multiply depth (mm) x width (mm) x length (m) i.e a 1 metre length x 20mm depth x 10mm width will require 200ml of product.

8) Packaging

FOOD-SEALTM is supplied in both 1 Kg & 2.5 Kg plastic drum packs.

9) Storage and Shelf Life

Store in dry, frost free conditions at temperatures between 10°C and 30°C.

FOOD-SEALTM has a minimum shelf life of 12 months when stored in original unopened containers in accordance with our instructions.

10) Limitations

Overpainting of the joint sealant is not recommended due to the flexible nature of the product.

11) Health and Safety

Avoid contact of the material with skin and eyes.

Wear appropriate gloves, overalls and eye protection during use.

Please refer to Material Safety Data Sheet for additional Information, for specific advice regarding any aspect of this product, please consult our Technical Section.

12) General Guidance

This Data Sheet is for general guidance purposes only and may contain information that is inappropriate for certain conditions of use. Accordingly, all recommendations and suggestions are made without guarantee. Further information is available from our Technical Department.

Please consult our Sales Department to confirm that this Data Sheet is the current issue – details listed below.





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material data safety sheet (part A)

This data sheet provides the information required by the Chemicals (Hazard Information and Packaging) Regulations.

1. Identification of Substance/Supplier

Coloured resin polyol component.
Cemart Resins Ltd.
Unit 11 Hunslet Trading Estate
Severn Way
Leeds
LS10 1BL

2. Composition/Information on Ingredients

2.1. Chemical Description

Polyol component

2.2. Classification

Not applicable.

3. Hazards Identification

Not applicable.

3.1. Classification

This product requires no hazard labelling according to current legislation.

4. First Aid Measures

Eye Contact

Wash eyes immediately with clean water for at least 15 minutes.

Skin Contact

Wash the affected area thoroughly with soap and water. If irritation, pain or other skin trouble occurs, seek medical advice.

Ingestion

If symptoms persist consult a doctor.

Inhalation

If irritation occurs, move to fresh air. If nose or airways become inflamed seek medical advice.

5. Fire Fighting Measures

5.1. Extinguishing Media

Use fire extinguishing methods suitable for surrounding conditions.

5.2. Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control.

6. Accidental Release Measures

6.1. Personal Precautions

(See 8.3)

6.2. Environmental Precautions

Do not allow to enter drains, sewers or watercourses. Collect and dispose of spillage as indicated in section 13.

6.3. Method of Cleaning

Collect with absorbent material (sand, diatomite, sawdust and shovel into suitable containers.

7. Storage and Handling

7.1. Storage

Protect from frost.

7.2. Handling

No special methods required.

8. Exposure Controls

8.1. Workplace Exposure Limits (WEL's)

This product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

8.2. Recommended Protective Equipment

Respiratory Protection

Not required.

Hand and Skin Protection

Impermeable gloves.

Eye Protection

Splash proof goggles should be worn.

9. Physical/Chemical Properties

9.1. Physical Data

| | |
|---------------------|-----------------------------|
| Physical state | Liquid |
| Colour | Various colours |
| Odour | Weak |
| Solubility | Difficult to mix with water |
| Relative Density | 1.4 - 1.6 @ 20°C |
| Vapour Pressure | < 0.0001 @ 25°C |
| Viscosity | 500 mPas @ 25°C |
| Flash Point | > 200 °C (closed cup) |
| Boiling Point | > 300 °C |
| Auto ignition Temp. | > 400 °C |

10. Stability and Reactivity

Stable under normal conditions. No dangerous decomposition products known.

11. Toxicological Information

11.1 Short Term Effects

Eye Contact

Irritating to eyes.

Skin Contact

No irritating effect.

Inhalation

No irritating effect.

Ingestion

May cause discomfort if swallowed.

11.2 Chronic Effects

12. Ecological Information

12.1 Ecotoxicity

Slightly hazardous for water. Do not allow undiluted product or large quantities to reach ground water, water courses or sewage system.

13. Disposal Considerations

Dispose of waste and residues in accordance with local authority requirements. Do not allow runoff to sewer, waterway or ground.

14. Transport Information

Classification for conveyance: Not required.

Not a marine pollutant.

15. Regulatory Information

15.1. Chemicals (Hazard Information & Packaging) Regulations

Classification: Not classified.

15.4. Safety Phrases

• Wear suitable protective clothing and gloves.

16. Legislation and Other Information

- Health & Safety at Work Act 1974.
- Control of Substances Hazardous to Health (Regulations).
- HSE Guidance Note EH40 (Workplace Exposure Limits).
- Any authorised manual on First Aid by St. Johns/St. Andrews/Red Cross.
- Manual Handling Operations Regulations 1992.
- Environmental Protection Act.
- Dangerous Substances Directive 67/548/EEC.

17. Other Information

Revisions

None.

Revision Date

Not applicable.



HARMFUL

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material data safety sheet (part Bi)

This data sheet provides the information required by the Chemicals (Hazard Information and Packaging) Regulations.

1. Identification of Substance/Supplier

Brown liquid isocyanate component.
Cemart Resins Ltd.
Unit 11 Hunslet Trading Estate
Severn Way
Leeds
LS10 1BL

2. Composition/Information on Ingredients

2.1. Chemical Description
Polymeric diphenylmethane diisocyanate
CAS No 9016-87-9 (60 - 100%)
2.2. Classification
Xn;R20. Xi;R36/37/38. R42/43.

3. Hazards Identification

Harmful by inhalation. Irritating to eyes, respiratory and skin. May cause sensitisation by inhalation and skin contact.

3.1. Classification

Xn;R20. R42/43. Xi;R36/37/38.

4. First Aid Measures

Eye Contact

Remove any contact lenses from the eyes before rinsing. Wash eyes immediately with clean water for at least 15 minutes and seek medical advice without delay.

Skin Contact

Wash the affected area thoroughly with soap and water before continuing. If irritation, pain or other skin trouble occurs, seek medical advice. Contaminated clothing should be removed and washed thoroughly before use. NOTE! Effects may be delayed.

Ingestion

Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Wash out mouth with water and give patient plenty of water or milk to drink.

Inhalation

If irritation occurs, move to fresh air. If nose or airways become inflamed seek medical advice.

5. Fire Fighting Measures

5.1. Extinguishing Media

Foam, carbon dioxide or dry powder.
Larger fires: Water spray, fog or mist.

5.2. Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control.

NOTE! Use air supplied respirators to protect against gases/fumes. Move container from fire area if it can be done without risk. If risk of water pollution occurs, notify appropriate authorities. Keep up-wind to avoid fumes.

5.3. Unusual Fire & Explosion Hazards

Prolonged exposure to heat may lead to formation of toxic gases.

5.4. Specific Hazards

Fire or high temperatures create toxic gases/vapours/fumes of carbon monoxide (CO), carbon dioxide (CO₂), hydrogen cyanide (HCN).

6. Accidental Release Measures

6.1. Personal Precautions

(See 8.3)

6.2. Environmental Precautions

Do not allow to enter drains, sewers or watercourses. Collect and dispose of spillage as indicated in section 13.

6.3. Method of Cleaning

Do not touch spilled material. Avoid contact with skin or inhalation of spillage, dust or vapour. Provide ventilation and confine spill. Do not allow runoff to sewer. Clean-up personnel should use respiratory and/or liquid contact protection. Collect with absorbent, non-combustible material into suitable containers. Shovel into dry containers. Cover and move the containers. Flush the area with water. Containers with collected spillages must be properly labelled with correct contents and hazard symbol.

7. Storage and Handling

7.1. Storage

Keep away from heat, sparks and open flame. Store at moderate temperatures in a dry, well ventilated area. Isocyanates react with water to liberate carbon dioxide. Any ingress of moisture into an isocyanate container, whether full or empty, can lead to pressure build up and subsequent explosion.

7.2. Handling

Avoid spilling, skin and eye contact. Ventilate well and avoid breathing vapours. Use approved respirator if air contamination is above acceptable level. Wear full protective clothing for prolonged exposure and/or high concentrations. Do not use contact lenses. Avoid contact with water, alcohols, amines and other materials that may react with isocyanates.

8. Exposure Controls

8.1. Workplace Exposure Limits (WEL's)

| | |
|------------|------------------------|
| Long term | 0.02 mg/m ³ |
| Short term | 0.07 mg/m ³ |

Exposure limits quoted as NCO.

8.2. Engineering Control Measures

Provide adequate general and local exhaust ventilation. Provide eyewash station.

8.3. Recommended Protective Equipment

Respiratory Protection

Respiratory protection must be used if the general level exceeds the WEL. Use chemical cartridge protection with appropriate cartridge suitable for organic substances.

Hand and Skin Protection

Chemical resistant gloves required for prolonged or repeated contact or where there is a risk of direct contact or splashing. Use protective gloves made of nitrile or neoprene.

Eye Protection

Splash proof goggles should be worn. Contact lenses should not be worn when working with this chemical. Provide eyewash station.

9. Physical/Chemical Properties

9.1. Physical Data

| | |
|---------------------|-----------------------|
| Physical state | Liquid |
| Colour | Dark brown |
| Odour | Musty |
| Solubility | Organic solvents |
| Relative Density | 1.1 - 1.3 @ 20°C |
| Vapour Density | 8.5 |
| Vapour Pressure | < 0.0001 @ 25°C |
| Viscosity | 70 - 110 mPas @ 25°C |
| Flash Point | > 200 °C (closed cup) |
| Boiling Point | > 300 °C |
| Auto ignition Temp. | > 400 °C |

This data sheet provides the information required by the Chemicals (Hazard Information and Packaging) Regulations.

10. Stability and Reactivity

Stable under normal conditions.

Conditions to avoid: Heat, sparks, flames.

Hazardous decomposition products: Fire or high temperatures create toxic gases/ vapours/fumes of carbon monoxide (CO), oxides of nitrogen, hydrogen cyanide (HCN), nitrous gases (NOx).

Special precautions: Avoid contact with water.

Materials to avoid: Acids, amines, bases, inorganic alkalis, alcohols, glycols, water, steam.

11. Toxicological Information

11.1 Short Term Effects

Eye Contact

Irritating to eyes.

Skin Contact

Irritating to skin. May cause sensitisation by skin contact.

Inhalation

Harmful by inhalation. May cause sensitisation by inhalation. Irritating to respiratory system.

Ingestion

May cause discomfort if swallowed.

11.2 Chronic Effects

This chemical can be hazardous when inhaled and/or touched. Prolonged inhalation and/or repeated exposure of high concentrations may cause chronic upper respiratory irritation, asthma and/ or pulmonary sensitisation. Recognised allergen. Irritating to skin. May cause severe irritation to eyes.

11.3 Medical Symptoms

Eyes and Mucous Membranes

Irritation, burning, lachrymation, blurred vision after liquid splash.

Respiratory System

Severe pulmonary irritation. General respiratory distress. Unproductive cough.

Skin

Severe skin irritation.

Digestive System

Nausea, vomiting, severe abdominal pain.

11.4 Medical Considerations

Skin disorders and allergies. Chronic respiratory and obstructive airway disease. Employees ought to be examined by a physician prior to work with diisocyanates. Allergic reactions may develop after inhalation of low concentrations and also several hours after exposure. Regular medical checks including lung function are recommended for long term and repeated use.

12. Ecological Information

12.1 Ecotoxicity

Not regarded as dangerous for the environment.

Isocyanates react with water to form an insoluble polyurea which is chemically and biologically inert. The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal Considerations

Dispose of waste and residues in accordance with local authority requirements. Do not allow runoff to sewer, waterway or ground.

14. Transport Information

Classification for conveyance: Not required.

Not a marine pollutant.

15. Regulatory Information

15.1. Chemicals (Hazard Information & Packaging) Regulations

Classification: Harmful.

15.2 Contains

Polymeric diphenylmethane diisocyanate.

15.3. Risk Phrases

- Harmful by inhalation.
- Irritating to eyes, respiratory system and skin.
- May cause sensitisation by inhalation and skin contact.
- R20; R36/37/38; R42/43.

15.4. Safety Phrases

- Do not breath vapour/spray.
- In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
- Wear suitable protective clothing and gloves.
- This material and its container must be disposed of as hazardous waste.
- Contains isocyanates. See information supplied by the manufacturer.
- Do not allow ingress of moisture - risk of pressure build up.
- S23; S45; S36/37; S1/2; S60; P4; U5.

16. Legislation and Other Information

- Health & Safety at Work Act 1974.
- Control of Substances Hazardous to Health (Regulations).
- HSE Guidance Note EH40 (Workplace Exposure Limits).
- Any authorised manual on First Aid by St. Johns/St. Andrews/Red Cross.
- Manual Handling Operations Regulations 1992.
- Environmental Protection Act.
- Dangerous Substances Directive 67/548/EEC.
- Isocyanates toxic hazards and precautions EH16.

17. Other Information

Revisions

None.

Revision Date

Not applicable.