

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Bond seal - 300 ml

Product code : 08901002 045 1

**Manufacturer or supplier's details**

Company : Wuerth India Pvt. Ltd.

Address : 703/704, Windfall, Sahar Plaza Complex  
Andheri (East), Mumbai 400059

Telephone : +91 8828111830

Emergency telephone number : 1800 102 5061

E-mail address : customer.care@wuerth.in

**Recommended use of the chemical and restrictions on use**

Recommended use : Adhesives  
Sealant

Restrictions on use :  
Not applicable

---

**2. HAZARDS IDENTIFICATION****Manufacture, Storage and Import of Hazardous Chemicals Rules 1989****Classification**

Flammable liquid

**GHS Classification**

Flammable liquids : Category 4

Skin corrosion/irritation : Category 3

Respiratory sensitisation : Category 1

Carcinogenicity (Inhalation) : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Central nervous system)


Short-term (acute) aquatic hazard : Category 3

## Bond seal - 300 ml

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**GHS label elements**

Hazard pictograms : 

Signal word : Danger

Hazard statements : H227 Combustible liquid.  
H316 Causes mild skin irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H351 Suspected of causing cancer if inhaled.  
H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.  
H402 Harmful to aquatic life.

Precautionary statements : **Prevention:**  
P203 Obtain, read and follow all safety instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe vapours.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.

**Response:**  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P318 IF exposed or concerned, get medical advice.  
P332 + P317 If skin irritation occurs: Get medical help.  
P342 + P316 If experiencing respiratory symptoms: Get emergency medical help immediately.

**Storage:**  
P405 Store locked up.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).  
Vapours may form explosive mixture with air.

---

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
 Date of first issue: 11/24/2015

Chemical name	CAS-No.	Concentration (% w/w)
Polyvinyl chloride	9002-86-2	>= 5 - < 10
Methylene-bis-4,1-(N-phenylene-N'-butylurea)	77703-56-1	>= 2.5 - < 5
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	>= 1 - < 5
Xylene	1330-20-7	>= 1 - < 2.5
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	64742-82-1	>= 1 - < 2.5
4,4'-Diphenylmethane diisocyanate	101-68-8	>= 0.1 - < 1

**4. FIRST AID MEASURES**

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
 If not breathing, give artificial respiration.  
 If breathing is difficult, give oxygen.  
 Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
 Remove contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
 Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
 Get medical attention.  
 Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Causes mild skin irritation.  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 Suspected of causing cancer if inhaled.  
 May cause damage to organs through prolonged or repeated exposure.  
 Respiratory symptoms, including pulmonary edema, may be delayed.  
 Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

**5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Water spray in large fire situations
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.  
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
- Hazardous combustion products : Carbon oxides  
Metal oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Chlorine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
- 

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can
-

## Bond seal - 300 ml

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent.

After approximately one hour, transfer to waste container and do not seal, due to evolution of carbon dioxide.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

---

### 7. HANDLING AND STORAGE

- |                             |   |  |
|-----------------------------|---|--|
| Technical measures          | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.  |
| Local/Total ventilation     | : | If sufficient ventilation is unavailable, use with local exhaust ventilation.  |
| Advice on safe handling     | : | <p>Do not get on skin or clothing.<br/>           Do not breathe vapours.<br/>           Do not swallow.<br/>           Avoid contact with eyes.<br/>           Wash skin thoroughly after handling.<br/>           Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br/>           Keep container tightly closed.<br/>           Keep away from water.<br/>           Protect from moisture.<br/>           Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.<br/>           Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br/>           Take precautionary measures against static discharges.<br/>           Do not eat, drink or smoke when using this product.<br/>           Take care to prevent spills, waste and minimize release to the environment.</p> |
| Conditions for safe storage | : | <p>Keep in properly labelled containers.<br/>           Store locked up.<br/>           Protect from moisture.<br/>           Keep in a cool, well-ventilated place.<br/>           Store in accordance with the particular national regulations.<br/>           Keep away from heat and sources of ignition.</p>  |
| Materials to avoid          | : | Do not store with the following product types:<br>Strong oxidizing agents  |
| Storage period              | : | 12 Months  |

## Bond seal - 300 ml

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
 Date of first issue: 11/24/2015

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Polyvinyl chloride	9002-86-2	TWA (Respirable particulate matter)	1 mg/m <sup>3</sup>	ACGIH
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	TWA	10 mg/m <sup>3</sup> (Titanium dioxide)	ACGIH
Xylene	1330-20-7	TWA	100 ppm 435 mg/m <sup>3</sup>	IN OEL
		STEL	150 ppm 655 mg/m <sup>3</sup>	IN OEL
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
4,4'-Diphenylmethane diisocyanate	101-68-8	TWA	0.005 ppm	ACGIH

#### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI

**Engineering measures** : Processing may form hazardous compounds (see section 10).  
 Ensure adequate ventilation, especially in confined areas.  
 Minimize workplace exposure concentrations.

#### Personal protective equipment

**Respiratory protection** : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

**Filter type** : Combined particulates and organic vapour type

**Hand protection**

**Material** : Fluorinated rubber  
**Break through time** : > 30 min  
**Glove thickness** : 0.4 mm

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Wear the following personal protective equipment:  
Safety glasses
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Wear the following personal protective equipment:  
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Contaminated work clothing should not be allowed out of the workplace.  
Wash contaminated clothing before re-use.
- 

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : paste
- Colour : grey
- Odour : characteristic
- Odour Threshold : No data available
- pH : substance/mixture is non-soluble (in water)
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : No data available
- Flash point : 76 °C
- Evaporation rate : No data available

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Ignitable (see flash point)
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	ca. 1.26 g/cm <sup>3</sup> (20 °C)
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	:	> 20.5 mm <sup>2</sup> /s ( 40 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

---

**10. STABILITY AND REACTIVITY**

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions. Polymerises at high temperatures with evolution of carbon dioxide.
Possibility of hazardous reactions	:	Combustible liquid. Vapours may form explosive mixture with air. Isocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the isocyanate. Exothermic reaction with acids, amines and alcohols Reacts with water to form carbon dioxide and heat Isocyanates are not soluble in water and sink to the bottom,



**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea.  
Hazardous decomposition products will be formed upon contact with water or humid air.

Conditions to avoid	:	Exposure to moisture Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Acids Bases Water Alcohols Amines Ammonia Aluminium Zinc Brass Tin Copper Galvanised metals Humid air
Hazardous decomposition products	:	No hazardous decomposition products are known.

---

**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
--	---	--

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

**Xylene:**

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg  
Method: Directive 67/548/EEC, Annex V, B.1.

Acute inhalation toxicity : LC50 (Rat): 27.571 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 4,200 mg/kg

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Acute oral toxicity : LD50 (Rat): > 15,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 13.1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 3,400 mg/kg

**4,4'-Diphenylmethane diisocyanate:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2.24 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Remarks: Based on data from similar materials

**Skin corrosion/irritation**

Causes mild skin irritation.

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Species : Rabbit  
Result : No skin irritation

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Species : Rabbit  
Result : No skin irritation

**Xylene:**

Species : Rabbit  
Result : Skin irritation

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

**4,4'-Diphenylmethane diisocyanate:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation  
Remarks : Based on data from similar materials

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Species : Rabbit  
Result : No eye irritation

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Species : Rabbit  
Result : No eye irritation

**Xylene:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

**4,4'-Diphenylmethane diisocyanate:**

Result : Irritation to eyes, reversing within 7 days

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Skin contact  
Species : Mouse  
Result : negative

**Xylene:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Skin contact  
Species : Mouse  
Result : negative

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

**4,4'-Diphenylmethane diisocyanate:**

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Exposure routes : Inhalation  
Species : Rat  
Result : positive  
Remarks : Based on data from similar materials

Assessment : Probability of respiratory sensitisation in humans based on

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

animal testing

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Species: Rat  
Application Route: Skin contact  
Result: negative

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse  
Result: negative

**Xylene:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Skin contact  
Result: negative

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**4,4'-Diphenylmethane diisocyanate:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo  
cytogenetic assay)  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity**

Suspected of causing cancer if inhaled.

**Components:****Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 Years  
Method : OECD Test Guideline 453  
Result : positive  
Remarks : The mechanism or mode of action may not be relevant in humans.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

**Xylene:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Species : Rat  
Application Route : inhalation (vapour)  
Exposure time : 105 weeks  
Result : negative  
Remarks : Based on data from similar materials

**4,4'-Diphenylmethane diisocyanate:**

Species : Rat  
Application Route : inhalation (dust/mist/fume)

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

Exposure time : 2 Years  
Result : positive  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

**Reproductive toxicity**

Not classified based on available information.

**Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal development : Species: Rabbit  
Application Route: Ingestion  
Result: negative

**Xylene:**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative

**4,4'-Diphenylmethane diisocyanate:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Result: negative  
Remarks: Based on data from similar materials

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**STOT - single exposure**

Not classified based on available information.

**Components:****Xylene:**

Assessment : May cause respiratory irritation.

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Assessment : May cause drowsiness or dizziness.

**4,4'-Diphenylmethane diisocyanate:**

Assessment : May cause respiratory irritation.

**STOT - repeated exposure**

May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

**Components:****Xylene:**

Exposure routes : inhalation (vapour)  
Target Organs : Auditory system  
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Exposure routes : Inhalation  
Target Organs : Central nervous system  
Assessment : Causes damage to organs through prolonged or repeated exposure.

**4,4'-Diphenylmethane diisocyanate:**

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Respiratory Tract  
Assessment : Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

**Repeated dose toxicity****Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Species : Rat  
NOAEL : 1,000 mg/kg  
Application Route : Ingestion

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]:**

Species : Rat



**Bond seal - 300 ml**

Version            Revision Date:            SDS Number:            Date of last issue: 11/11/2021  
6.1                05/31/2022              10768550-00009        Date of first issue: 11/24/2015

---

NOAEL                                : 24,000 mg/kg  
Application Route                : Ingestion  
Exposure time                      : 28 Days

Species                                : Rat  
NOAEL                                : 10 mg/m<sup>3</sup>  
Application Route                : inhalation (dust/mist/fume)  
Exposure time                      : 2 yr

**Xylene:**

Species                                : Rat  
LOAEL                                : > 0.2 - 1 mg/l  
Application Route                : inhalation (vapour)  
Exposure time                      : 13 Weeks  
Remarks                              : Based on data from similar materials

Species                                : Rat  
LOAEL                                : 150 mg/kg  
Application Route                : Ingestion  
Exposure time                      : 90 Days

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Species                                : Rat  
NOAEL                                : 1,056 mg/kg  
Application Route                : Ingestion  
Exposure time                      : 90 Days

Species                                : Rat  
NOAEL                                : 3.950 mg/l  
LOAEL                                : 7.400 mg/l  
Application Route                : Inhalation  
Exposure time                      : 90 Days

**4,4'-Diphenylmethane diisocyanate:**

Species                                : Rat  
NOAEL                                : 0,2 mg/m<sup>3</sup>  
LOAEL                                : 1 mg/m<sup>3</sup>  
Application Route                : inhalation (dust/mist/fume)  
Exposure time                      : 2 yr  
Remarks                              : Based on data from similar materials

**Aspiration toxicity**

Not classified based on available information.

**Components:****Xylene:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Experience with human exposure****Components:****Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Inhalation : Symptoms: central nervous system effects

---

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 250 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 ( Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 72 h

NOEC ( Desmodesmus subspicatus (green algae)): 100 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : IC50: > 100 mg/l  
Exposure time: 3 h

**Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter  $\leq 10 \mu\text{m}$ ]:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 ( Skeletonema costatum (marine diatom)): > 10,000 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

**Xylene:**

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 13.5 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : EC50 ( Skeletonema costatum (marine diatom)): 10 mg/l  
Exposure time: 72 h
- Toxicity to microorganisms : NOEC: > 100 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials
- Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - < 1 mg/l  
Exposure time: 35 d  
Species: Danio rerio (zebra fish)  
Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL10: > 1 - 10 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials
- Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**
- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10 - 22 mg/l  
Exposure time: 48 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EL50 ( Pseudokirchneriella subcapitata (green algae)): 4.1 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201
- NOELR ( Pseudokirchneriella subcapitata (green algae)): 0.76 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.097 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

**Bond seal - 300 ml**

Version 6.1      Revision Date: 05/31/2022      SDS Number: 10768550-00009      Date of last issue: 11/11/2021  
Date of first issue: 11/24/2015

---

Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

**4,4'-Diphenylmethane diisocyanate:**

- Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3,000 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 129.7 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 ( Desmodesmus subspicatus (green algae)): > 1,640 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- NOEC ( Desmodesmus subspicatus (green algae)): 1,640 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials
- Toxicity to microorganisms : EC50: > 100 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

**Persistence and degradability****Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

- Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 11 %  
Exposure time: 28 d

**Xylene:**

- Biodegradability : Result: Readily biodegradable.  
Biodegradation: > 70 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F  
Remarks: Based on data from similar materials

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 75.9 %  
Exposure time: 31 d  
Method: OECD Test Guideline 301F  
Remarks: Based on data from similar materials

**4,4'-Diphenylmethane diisocyanate:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302  
Remarks: Based on data from similar materials

**Bioaccumulative potential****Components:****Methylene-bis-4,1-(N-phenylene-N'-butylurea):**

Partition coefficient: n- : log Pow: 5.5  
octanol/water

**Xylene:**

Partition coefficient: n- : log Pow: 3.16  
octanol/water Remarks: Calculation

**Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%):**

Partition coefficient: n- : Pow: > 4  
octanol/water

**4,4'-Diphenylmethane diisocyanate:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 200

Partition coefficient: n- : log Pow: 4.51  
octanol/water

**Mobility in soil**

No data available

**Other adverse effects**

No data available

---

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

---

**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**Special precautions for user**

Not applicable

---

**15. REGULATORY INFORMATION**

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

---

**16. OTHER INFORMATION****Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
IN OEL : India. Permissible levels of certain chemical substances in work environment.

ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)  
IN OEL / STEL : Short-term exposure Limit STEL (15 min)

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for

**Bond seal - 300 ml**

Version	Revision Date:	SDS Number:	Date of last issue: 11/11/2021
6.1	05/31/2022	10768550-00009	Date of first issue: 11/24/2015

---

Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

IN / EN