

## BOND AND SEAL, Elastic polyurethane adhesive, Grey, 300 mL

Version SDS Number: Date of last issue: 11/17/2022 **Revision Date:** 8.2 05/15/2023 10768586-00011 Date of first issue: 03/01/2010

**SECTION 1. IDENTIFICATION** 

Product name BOND AND SEAL, Elastic polyurethane adhesive, Grey, 300

mL

Product code 890.1002

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier Würth Canada Limited

Address 345 Hanlon Creek Blvd

GUELPH, ON N1C 0A1

Telephone +1 (905) 564 6225

Telefax +1 (905) 564 3671

Emergency telephone Emergencies involving a spill, fire, explosion or exposure:

> CHEMTREC (24/7): 1-800-424-9300 Transport related emergencies:

CANUTEC (24/7): 1-613-996-6666 or \* 666 (cell)

Urgences impliquant un déversement, incendie, explosion ou

exposition:

CHEMTREC (24/7): 1-800-424-9300

Urgences liées au transport:

CANUTEC (24/7): 1-613-996-6666 ou \* 666 (cellulaire)

E-mail address prodsafe@wurth.ca

Recommended use of the chemical and restrictions on use

Adhesives Recommended use

Sealant

#### **SECTION 2. HAZARDS IDENTIFICATION**

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids Category 4

Respiratory sensitization Category 1

Skin sensitization Category 1

Carcinogenicity Category 2

Specific target organ toxicity

Category 1 (Central nervous system)

- repeated exposure



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Specific target organ toxicity

- repeated exposure

Category 2 (Auditory system)

**GHS** label elements

Hazard pictograms

Signal Word : Danger

Hazard Statements : H227 Combustible liquid.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing diffi-

culties if inhaled.

H351 Suspected of causing cancer.

H372 Causes damage to organs (Central nervous system)

through prolonged or repeated exposure.

H373 May cause damage to organs (Auditory system) through

prolonged or repeated exposure.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking.

P260 Do not breathe vapors.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should not be allowed out of

the workplace.

P280 Wear protective gloves, protective clothing, eye protection

and face protection.

P284 Wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical attention.

P333 + P313 If skin irritation or rash occurs: Get medical atten-

tion.

P342 + P311 If experiencing respiratory symptoms: Call a doc-

tor.

P362 + P364 Take off contaminated clothing and wash it before

reuse.

Storage:

P405 Store locked up.

Disposal:



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

#### Other hazards

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

Vapors may form explosive mixture with air.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

#### Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Limestone	Calcium car- bonate	1317-65-3	>= 10 - < 30 *
Polyvinyl chloride	Ethene, chloro-, homopolymer	9002-86-2	>= 5 - < 10 *
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	Titanic anhy- dride	13463-67-7	>= 1 - < 5 *
Xylene	Benzene, dime- thyl-	1330-20-7	>= 1 - < 5 *
Hydrocarbons, C9- C12, n-alkanes, isoal- kanes, cyclics, aromat- ics (2-25%)	No data availa- ble	64742-82-1	>= 1 - < 5 *
4,4'-Diphenylmethane diisocyanate	Benzene, 1,1'- methylenebis[4- isocyanato-	101-68-8	>= 0.1 - < 1 *

Actual concentration or concentration range is withheld as a trade secret

#### **SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice 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.



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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

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficul-

ties if inhaled.

Suspected of causing cancer.

Causes 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, reac-

tive 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.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Alcohol-resistant foam

Carbon dioxide (CO2)

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. Vapors 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 prod: :

ucts

Carbon oxides

Metal oxides

Nitrogen oxides (NOx) Chlorine compounds

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.



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Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment:

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.
Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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/vapors/mists with a water spray

iet.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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.

### **SECTION 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 : Do not get on skin or clothing.

Do not breathe vapors.

Do not swallow.

Avoid contact with eyes.



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Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Keep container tightly closed.

Keep away from water. Protect from moisture.

Already sensitized individuals, and those susceptible

to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respira-

tory irritants or sensitizers.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Store locked up.
Protect from moisture.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

Self-reactive substances and mixtures

Organic peroxides

Explosives Gases

Storage period : 12 Months

#### **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Limestone	1317-65-3	TWA	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (to-	10 mg/m <sup>3</sup>	CA QC OEL
		tal dust)		
		TWA (Total	10 mg/m <sup>3</sup>	CA BC OEL
		dust)		
		TWA (respir-	3 mg/m³	CA BC OEL
		able dust		
		fraction)		
		STEL	20 mg/m <sup>3</sup>	CA BC OEL
Polyvinyl chloride	9002-86-2	TWA (Respirable)	1 mg/m³	CA BC OEL
		TWA (Respi-	1 mg/m³	ACGIH



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		rable particu-		
		late matter)		
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	TWA	10 mg/m³	CA AB OEL
		TWA (Total dust)	10 mg/m³	CA BC OEL
		TWA (respirable dust fraction)	3 mg/m³	CA BC OEL
		TWAEV (to- tal dust)	10 mg/m³	CA QC OEL
		TWA (Respirable particulate matter)	2.5 mg/m³ (Titanium dioxide)	ACGIH
Xylene	1330-20-7	TWA	100 ppm 434 mg/m³	CA AB OEL
		STEL	150 ppm 651 mg/m <sup>3</sup>	CA AB OEL
		TWAEV	100 ppm 434 mg/m <sup>3</sup>	CA QC OEL
		STEV	150 ppm 651 mg/m³	CA QC OEL
		TWA	100 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	20 ppm	ACGIH
4,4'-Diphenylmethane diisocyanate	101-68-8	TWA	0.005 ppm	CA BC OEL
		С	0.01 ppm	CA BC OEL
		TWA	0.005 ppm	CA ON OEL
		С	0.02 ppm	CA ON OEL
		TWAEV	0.005 ppm 0.051 mg/m <sup>3</sup>	CA QC OEL
		TWA	0.005 ppm	ACGIH

### **Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
Xylene	1330-20-7	Methyl- hippuric 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.



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#### Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the re-

commended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapor type

Hand protection

Material : Fluorinated rubber

Break through time : > 30 min Glove thickness : 0.4 mm

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration 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 wor-

king 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.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : paste

Color : gray

Odor : characteristic



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Odor 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

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

Vapor pressure : No data available

Relative vapor density : No data available

Density : ca. 1.26 g/cm³ (20 °C)

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

Not applicable

Autoignition 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



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#### **SECTION 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.

Polymerizes at high temperatures with evolution of carbon

dioxide.

Possibility of hazardous reac-

tions

Combustible liquid.

Vapors 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 stir-

ring 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, 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 con-

tact 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
Aluminum
Zinc
Brass
Tin
Copper

Galvanized metals

Humid air

Hazardous decomposition

products

No hazardous decomposition products are known.

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

#### Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact



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**Acute toxicity** 

Not classified based on available information.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l

Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

**Components:** 

Limestone:

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

Method: OECD Test Guideline 420

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

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

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

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

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 inhala-

tion toxicity

Xylene:

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg

Method: Directive 67/548/EEC, Annex V, B.1.



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Acute inhalation toxicity : LC50 (Rat): 27.571 mg/l

Exposure time: 4 h
Test atmosphere: vapor

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: vapor

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 tox-

icity

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

Not classified based on available information.

Components:

Limestone:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic

diameter ≤ 10 µm]:

Species : Rabbit

Result : No skin irritation

Xylene:

Species : Rabbit Result : Skin irritation

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



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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:** 

Limestone:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic

diameter ≤ 10 µm]:

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

Result : No eye irritation

Method : OECD Test Guideline 405

4,4'-Diphenylmethane diisocyanate:

Result : Irritation to eyes, reversing within 7 days Remarks : Based on national or regional regulation.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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



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#### **Components:**

Limestone:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact

Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : Based on data from similar materials

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

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact Species : Mouse Result : negative

Xylene:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Skin contact
Species : Mouse
Result : negative

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

Test Type : Maximization Test Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

4,4'-Diphenylmethane diisocyanate:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

Routes of exposure : Inhalation Species : Rat Result : positive

Remarks : Based on data from similar materials

Assessment : Probability of respiratory sensitization in humans based on

animal testing

Germ cell mutagenicity

Not classified based on available information.



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#### **Components:**

Limestone:

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

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

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

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 mam-

malian 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)



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Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) 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.

Components:

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

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 hu-

mans.

Carcinogenicity - Assess-

ment

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 (vapor)
Exposure time : 105 weeks
Result : negative

Remarks : Based on data from similar materials



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4,4'-Diphenylmethane diisocyanate:

Species : Rat

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 Years Result : positive

Remarks : Based on data from similar materials

Carcinogenicity - Assess-

ment

: Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

**Components:** 

Limestone:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Xylene:

Effects on fertility : Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

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 (vapor)

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat



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Application Route: inhalation (vapor)

Result: negative

#### 4,4'-Diphenylmethane diisocyanate:

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (dust/mist/fume)

Result: negative

Remarks: Based on data from similar materials

### 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

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

#### Components:

## Xylene:

Routes of exposure : inhalation (vapor)
Target Organs : Auditory system

Assessment : Shown to produce significant health effects in animals at con-

centrations of >0.2 to 1 mg/l/6h/d.

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

Routes of exposure : Inhalation

Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

#### 4,4'-Diphenylmethane diisocyanate:

Routes of exposure : inhalation (dust/mist/fume)

Target Organs : Respiratory Tract

Assessment : Shown to produce significant health effects in animals at con-

centrations of >0.02 to 0.2 mg/l/6h/d.



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#### Repeated dose toxicity

### **Components:**

#### Limestone:

Species : Rat

NOAEL : > 300 mg/kg
Application Route : Ingestion
Exposure time : 28 Days

Method : OECD Test Guideline 422

Remarks : Based on data from similar materials

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

Species : Rat

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

Species : Rat NOAEL : 10 mg/m³

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 y

Xylene:

Species : Rat

LOAEL : > 0.2 - 1 mg/l
Application Route : inhalation (vapor)

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/m3



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LOAEL : 1 mg/m3

Application Route : inhalation (dust/mist/fume)

Exposure time : 2 y

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.

### 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

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### Components:

### Limestone:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

LL50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EL50 (Desmodesmus subspicatus (green algae)): > 14 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: No toxicity at the limit of solubility.

Based on data from similar materials



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EL10 (Desmodesmus subspicatus (green algae)): > 14 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: No toxicity at the limit of solubility. 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

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

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:

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 fish (Chronic tox-

icity)

NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l

Exposure time: 35 d

Method: OECD Test Guideline 210

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

aquatic invertebra

EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 21 d

Mathadi OECD Taat Co

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC: > 100 mg/l

Exposure time: 3 h



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Method: OECD Test Guideline 209

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 (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.097 mg/l

Exposure time: 21 d

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



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Toxicity to daphnia and other : aquatic invertebrates (Chron-

NOEC (Daphnia magna (Water flea)): 10 mg/l Exposure time: 21 d

ic toxicity)

Method: OECD Test Guideline 211

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

#### Persistence and degradability

#### **Components:**

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%):

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:**

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- : Po

octanol/water

: Pow: > 4

## 4,4'-Diphenylmethane diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 200



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Partition coefficient: n-

octanol/water

log Pow: 4.51

Mobility in soil

No data available

Other adverse effects

No data available

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

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

Do not dispose of waste into sewer.

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. 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.

#### **SECTION 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 Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**Domestic regulation** 

**TDG** 

Not regulated as a dangerous good

Special precautions for user

Not applicable

### **SECTION 15. REGULATORY INFORMATION**

Volatile organic compounds (VOC) content

CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 -

Guidelines for VOC in Consumer Products

VOC content: 3.5 % / 43 g/l



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Remarks: VOC content excluding water and exempt com-

pounds

The ingredients of this product are reported in the following inventories:

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

#### **SECTION 16. OTHER INFORMATION**

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table

2: OEL)

CA BC OEL : Canada. British Columbia OEL

CA ON OEL : Ontario Table of Occupational Exposure Limits made under

the Occupational Health and Safety Act.

CA QC OEL : Québec. Regulation respecting occupational health and safe-

ty, Schedule 1, Part 1: Permissible exposure values for air-

borne contaminants

ACGIH / TWA : 8-hour, time-weighted average
CA AB OEL / TWA : 8-hour Occupational exposure limit
CA AB OEL / STEL : 15-minute occupational exposure limit

CA BC OEL / TWA : 8-hour time weighted average CA BC OEL / STEL : short-term exposure limit

CA BC OEL / C : ceiling limit
CA ON OEL / C : Ceiling Limit (C)

CA ON OEL / TWA : Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV : Time-weighted average exposure value

CA QC OEL / STEV : Short-term exposure value

AIIC - 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 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



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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

Sources of key data used to

compile the Material Safety

**Data Sheet** 

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

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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.

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