

**Safety Data Sheet**  
acc. to OSHA HCS

Printing Date 01/31/2019

Revision Number 1

Revision Date 01/31/2019

**1 Identification**

- **Product identifier**
- **Trade name: BD Loops Loop Goop2 Iso**
- **Relevant identified uses of the substance or mixture.**  
Industrial Use Only.  
Sealant
- **Application of the substance / the mixture** Sealant
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Royal Adhesives & Sealants Canada Ltd  
266 Humberline Drive - Toronto, Ontario, Canada M9W 5X1  
Tel. +1 416-679-5676 Fax: +1 416-679-0511
- **Information department:** Global Regulatory Department.
- **Emergency telephone number:**  
Emergency Telephone Number: CANUTEC Collect: (613) 996-6666 (24-hour hotline)

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Carc. 2 H351 Suspected of causing cancer.
- Repr. 1B H360 May damage fertility or the unborn child.
- STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard statements**  
Causes skin irritation.

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*Causes serious eye irritation.*

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

*May cause an allergic skin reaction.*

*Suspected of causing cancer.*

*May damage fertility or the unborn child.*

*May cause respiratory irritation.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.*

*Do not handle until all safety precautions have been read and understood.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash thoroughly after handling.*

*Use only outdoors or in a well-ventilated area.*

*Contaminated work clothing must not be allowed out of the workplace.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*[In case of inadequate ventilation] wear respiratory protection.*

*If on skin: Wash with plenty of water.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*IF exposed or concerned: Get medical advice/attention.*

*Call a poison center/doctor if you feel unwell.*

*Specific treatment (see on this label).*

*Get medical advice/attention if you feel unwell.*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*If experiencing respiratory symptoms: Call a poison center/doctor.*

*Wash contaminated clothing before reuse.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

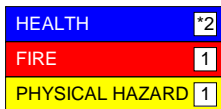


Health = 2

Fire = 1

Reactivity = 1

· **HMIS-ratings (scale 0 - 4)**



Health = \*2

Fire = 1

Physical Hazard = 1

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description: Mixture**

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| <b>· Hazardous components:</b> |   |         |
|--------------------------------|---|---------|
| 117-81-7                       | bis(2-ethylhexyl) phthalate   | 25-50%  |
| 9016-87-9                      | diphenylmethanediisocyanate, isomeres and homologues (polymer exempt) | 10-25%  |
| 101-68-8                       | 4,4'-methylenediphenyl diisocyanate                                   | 10-25%  |
| 5873-54-1                      | o-(p-isocyanatobenzyl)phenyl isocyanate                               | 2.5-10% |
| 107-21-1                       | ethanediol  | 2.5-10% |

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin becomes irritated seek medical attention.
- **After eye contact:**  
Rinse opened eye for 20 minutes under running water. If eye becomes irritated, obtain medical treatment.
- **After swallowing:**  
Rinse mouth with water.  
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**  
Firefighters use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.  
Use water spray to cool fire exposed containers.
- **Protective equipment:** Protective clothing and respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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· **Methods and material for containment and cleaning up:**

Cover spilled material with neutralization solution (see below) and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat neutralization and cleaning process until surface is decontaminated. Apply drum lid but DO NOT secure. Allow containers to vent for 72 hours to let carbon dioxide escape.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste in accordance with federal state and local regulations.

Ensure adequate ventilation.

· **Reference to other sections**

Neutralization solutions:

1. A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

2. A mixture of 80% water, 20% non-ionic surfactant.

Apply solution. Wait 15 minutes. Collect in open-head container. Re-apply until surface is decontaminated. Apply drum lid but DO NOT secure. Let containers vent for 72 hours allowing carbon dioxide to escape. Secure drum lid.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

|           |   |                        |
|-----------|---|------------------------|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | 10 mg/m <sup>3</sup>   |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues (polymer exempt) | 0.15 mg/m <sup>3</sup> |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | 0.45 mg/m <sup>3</sup> |
| 107-21-1  | ethanediol  | 30 ppm                 |

· **PAC-2:**

|           |   |                         |
|-----------|---|-------------------------|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | 1,000 mg/m <sup>3</sup> |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues (polymer exempt) | 3.6 mg/m <sup>3</sup>   |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | 5 mg/m <sup>3</sup>     |
| 107-21-1  | ethanediol  | 150 ppm                 |

· **PAC-3:**

|           |   |                         |
|-----------|---|-------------------------|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | 6,100 mg/m <sup>3</sup> |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues (polymer exempt) | 22 mg/m <sup>3</sup>    |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | 55 mg/m <sup>3</sup>    |
| 107-21-1  | ethanediol  | 900 ppm                 |

## 7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Open containers in a well ventilated area and avoid breathing headspace vapors.

Open and handle receptacle with care.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Product reacts with water. Reaction may produce heat and/or gases.

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Keep containers tightly closed when not in use. Protect from atmospheric moisture.

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- **Information about storage in one common storage facility:** *Keep away from open flames and high temperatures.*
- **Further information about storage conditions:**
  - Protect from humidity and water.*
  - Protect product from freezing.*
  - Keep receptacle tightly sealed.*
- **Specific end use(s)** *No further relevant information available.*

### \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

*The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.*

*At this time, the other constituents have no known exposure limits.*

#### **117-81-7 bis(2-ethylhexyl) phthalate**

PEL Long-term value: 5 mg/m<sup>3</sup>

REL Short-term value: 10 mg/m<sup>3</sup>  
 Long-term value: 5 mg/m<sup>3</sup>  
 See Pocket Guide App. A

TLV Long-term value: 5 mg/m<sup>3</sup>

#### **101-68-8 4,4'-methylenediphenyl diisocyanate**

PEL Ceiling limit value: 0.2 mg/m<sup>3</sup>, 0.02 ppm

REL Long-term value: 0.05 mg/m<sup>3</sup>, 0.005 ppm  
 Ceiling limit value: 0.2\* mg/m<sup>3</sup>, 0.02\* ppm  
 \*10-min

TLV Long-term value: 0.051 mg/m<sup>3</sup>, 0.005 ppm

#### **107-21-1 ethanediol**

TLV Short-term value: 10\*\* mg/m<sup>3</sup>, 50\* ppm

Long-term value: 25\* ppm  
 \*vapor fraction: \*\*inh. fraction, aerosol only

WEEL I (2)

- **Additional information:**

*MDI products have poor warning properties, since recognition of an odor is far above the TLV. Observe OSHA regulations for respirator use (29 CFR 1910.134).*

*The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment (see listings below)**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.*
  - Immediately remove all soiled and contaminated clothing.*
  - Wash hands before breaks and at the end of work.*
  - Store protective clothing separately.*
  - Avoid contact with the eyes and skin.*
- **Breathing equipment:**

*Airborne MDI concentrations greater than the ACGIH TLV-TWA or OSHA PEL can occur in inadequately ventilated environments when MDI is sprayed or heated. In such cases respiratory protection is require.*

*Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.*

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Safety glasses with side shields.



Tightly sealed goggles

Use full face shield over protective eye wear when there is a risk of a splash.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Not determined. |
| <b>Odor:</b>           | Characteristic  |
| <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                       |               |
|-----------------------|---------------|
| <b>Melting point:</b> | Undetermined. |
| <b>Boiling point:</b> | Undetermined  |

· **Flash point:** > 100 °C (>212 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 370 °C (698 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Flammable limits:**

|               |           |
|---------------|-----------|
| <b>Lower:</b> | 0.2 Vol % |
| <b>Upper:</b> | 0.2 Vol % |

· **Vapor pressure:** Not determined.

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- **Specific gravity:**
  - Relative density** Not determined.
  - Vapor density** Not determined.
  - Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
- **Solids content:** Not available.
- **Other information** No further relevant information available.

### \* 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
Contact with moisture, other materials that react with isocyanates, or temperatures above 350F, may cause polymerization.
- **Conditions to avoid**  
Moisture  
Exposure to high temperatures.
- **Incompatible materials:**  
Reacts with amines, caustic alkali solutions, alcohols, ammonia, oxidizers, acids, polyols.  
Reacts with water forming carbon dioxide-may rupture sealed containers if contaminated with water.
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Dense smoke  
Isocyanate  
Isocyanic acid  
Hydrogen cyanide (prussic acid)

### \* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

#### 117-81-7 bis(2-ethylhexyl) phthalate

|        |      |                       |
|--------|------|-----------------------|
| Oral   | LD50 | 30,600 mg/kg (rat)    |
| Dermal | LD50 | 25,000 mg/kg (rabbit) |

#### 101-68-8 4,4'-methylenediphenyl diisocyanate

|      |      |                     |
|------|------|---------------------|
| Oral | LD50 | 2,200 mg/kg (mouse) |
|------|------|---------------------|

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- **Primary irritant effect:**
- **on the skin:** Skin irritant.
- **on the eye:** Causes serious eye irritation.
- **Sensitization:**  
Inhalation - Sensitization possible through inhalation.  
Skin Contact - Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

|           |   |    |
|-----------|---|----|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | 2B |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues {polymer exempt} | 3  |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | 3  |

· **NTP (National Toxicology Program)**

|          |                             |   |
|----------|-----------------------------|---|
| 117-81-7 | bis(2-ethylhexyl) phthalate | R |
|----------|-----------------------------|---|

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### \* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** At present there are no ecotoxicological assessments.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### \* 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### \* 14 Transport information

- **UN-Number**
- **DOT, ADN, IMDG, IATA** not regulated

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|  |   |
|--|---|
| · <b>UN proper shipping name</b><br>· <b>DOT, ADN, IMDG, IATA</b>                      | <i>not regulated</i>  |
| · <b>Transport hazard class(es)</b><br>· <b>DOT, ADN, IMDG, IATA</b><br>· <b>Class</b> | <i>not regulated</i>  |
| · <b>Packing group</b><br>· <b>DOT, IMDG, IATA</b>                                     | <i>not regulated</i>  |
| · <b>Environmental hazards:</b>  | <i>Not applicable.</i>                                      |
| · <b>Special precautions for user</b>  | <i>Not applicable.</i>                                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>       | <i>Not applicable.</i>                                      |
| · <b>Transport/Additional information:</b>   | <i>Not dangerous according to the above specifications.</i> |
| · <b>UN "Model Regulation":</b>  | <i>not regulated</i>  |

## 15 Regulatory information

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

### · **Section 355 (extremely hazardous substances):**

*None of the ingredients is listed.*

### · **Section 313 (Specific toxic chemical listings):**

117-81-7 *bis(2-ethylhexyl) phthalate*

9016-87-9 *diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)*

101-68-8 *4,4'-methylenediphenyl diisocyanate*

107-21-1 *ethanediol*

### · **TSCA (Toxic Substances Control Act):**

*All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.*

### · **Proposition 65**

*Please contact H.B. Fuller for more information regarding Proposition 65 on this product:  
reg.request@hbfuller.com .*

### · **(DSL) Canada Domestic Substance List**

*All components of this product are on the DSL (Canada Domestic Substance list) or are exempt from DSL requirements.*

### · **New Jersey Right-to-Know List:**

117-81-7 *bis(2-ethylhexyl) phthalate*

9016-87-9 *diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)*

101-68-8 *4,4'-methylenediphenyl diisocyanate*

107-21-1 *ethanediol*

### · **New Jersey Special Hazardous Substance List:**

117-81-7 *bis(2-ethylhexyl) phthalate*

CA, TE

### · **Pennsylvania Right-to-Know List:**

117-81-7 *bis(2-ethylhexyl) phthalate*

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|          |                                     |
|----------|-------------------------------------|
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate |
| 107-21-1 | ethanediol                          |

**· Pennsylvania Special Hazardous Substance List:**

|          |                                     |    |
|----------|-------------------------------------|----|
| 117-81-7 | bis(2-ethylhexyl) phthalate         | ES |
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate | E  |
| 107-21-1 | ethanediol                          | E  |

**· Cancerogenity categories**
**· EPA (Environmental Protection Agency)**

|           |   |        |
|-----------|---|--------|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | B2     |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues {polymer exempt} | CBD    |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | D, CBD |

**· TLV (Threshold Limit Value established by ACGIH)**

|          |                             |    |
|----------|-----------------------------|----|
| 117-81-7 | bis(2-ethylhexyl) phthalate | A3 |
| 107-21-1 | ethanediol                  | A4 |

**· MAK (German Maximum Workplace Concentration)**

|           |   |   |
|-----------|---|---|
| 117-81-7  | bis(2-ethylhexyl) phthalate   | 4 |
| 9016-87-9 | diphenylmethanediisocyanate, isomeres and homologues {polymer exempt} | 4 |
| 101-68-8  | 4,4'-methylenediphenyl diisocyanate                                   | 4 |

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

|          |                             |
|----------|-----------------------------|
| 117-81-7 | bis(2-ethylhexyl) phthalate |
|----------|-----------------------------|

**· National regulations:**

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### \* 16 Other information

Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, Royal Adhesives & Sealants makes no representations as to the completeness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Royal Adhesives & Sealants or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.

**· Department issuing SDS:**

Global Regulatory Department.  
reg.request@hbfuller.com

**· Creation Date:** 01/31/2019

**· Date of preparation / last revision** 01/31/2019 / -

**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)

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*HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Resp. Sens. 1: Respiratory sensitisation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**Carc. 2: Carcinogenicity – Category 2**Repr. 1B: Reproductive toxicity – Category 1B**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

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**1 Identification**

- **Product identifier**
- **Trade name:** *BD Loops Loop Goop2 Polyol*
- **Relevant identified uses of the substance or mixture.**  
*Industrial Use Only.*  
*Sealant*
- **Application of the substance / the mixture** *Sealant*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Royal Adhesives & Sealants Canada Ltd*  
*266 Humberline Drive - Toronto, Ontario, Canada M9W 5X1*  
*Tel. +1 416-679-5676 Fax: +1 416-679-0511*
- **Information department:** *Global Regulatory Department.*
- **Emergency telephone number:**  
*ChemTrec: Day or Night within USA and Canada: 1-800-424-9300.*  
*Outside USA and Canada: +1 703-527-3887 (collect calls accepted)*

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

*Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.*



GHS07

*Skin Irrit. 2 H315 Causes skin irritation.*

*Eye Irrit. 2A H319 Causes serious eye irritation.*

*STOT SE 3 H335 May cause respiratory irritation.*

- **Label elements**
- **GHS label elements** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** *Danger*
- **Hazard statements**  
*Causes skin irritation.*  
*Causes serious eye irritation.*  
*May cause allergy or asthma symptoms or breathing difficulties if inhaled.*  
*May cause respiratory irritation.*

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· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

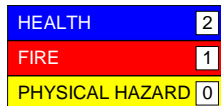


Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 1

Physical Hazard = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### \* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description: Mixture**

· **Hazardous components:**

|           |                         |         |
|-----------|-------------------------|---------|
| 141-05-9  | diethyl maleate         | 25-50%  |
| 9046-10-0 | Polyoxypropylenediamine | 5-20%   |
| 107-21-1  | ethanediol              | 2.5-10% |

### \* 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin becomes irritated seek medical attention.
- **After eye contact:**  
Rinse opened eye for 20 minutes under running water. If eye becomes irritated, obtain medical treatment.
- **After swallowing:**  
Rinse mouth with water.  
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**  
Firefighters use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
- **Protective equipment:** Protective clothing and respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste in accordance with federal state and local regulations.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|          |                           |                      |
|----------|---------------------------|----------------------|
|          | Polyether Polyol          | 30 mg/m <sup>3</sup> |
| 103-23-1 | Di-(2-ethylhexyl) adipate | 17 mg/m <sup>3</sup> |
| 107-21-1 | ethanediol                | 30 ppm               |

· **PAC-2:**

|          |                           |                       |
|----------|---------------------------|-----------------------|
|          | Polyether Polyol          | 330 mg/m <sup>3</sup> |
| 103-23-1 | Di-(2-ethylhexyl) adipate | 180 mg/m <sup>3</sup> |
| 107-21-1 | ethanediol                | 150 ppm               |

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|                 |                           |                         |
|-----------------|---------------------------|-------------------------|
| · <b>PAC-3:</b> |                           |                         |
|                 | Polyether Polyol          | 2,000 mg/m <sup>3</sup> |
| 103-23-1        | Di-(2-ethylhexyl) adipate | 1,100 mg/m <sup>3</sup> |
| 107-21-1        | ethanediol                | 900 ppm                 |

## \* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
*Open and handle receptacle with care.  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.*
- **Information about protection against explosions and fires:** *Keep container closed when not in use.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *Store in a cool location away from direct heat.*
- **Information about storage in one common storage facility:** *Store away from oxidizing agents.*
- **Further information about storage conditions:**  
*Protect from humidity and water.  
 Keep receptacle tightly sealed.*
- **Specific end use(s)** *No further relevant information available.*

## \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
*The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
 At this time, the remaining constituent has no known exposure limits.*

|                            |   |
|----------------------------|---|
| <b>107-21-1 ethanediol</b> |   |
| TLV                        | Short-term value: 10** mg/m <sup>3</sup> , 50* ppm<br>Long-term value: 25* ppm<br>*vapor fraction:**inh. fraction, aerosol only |
| WEEL                       | I (2)   |

- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment (see listings below)**
- **General protective and hygienic measures:**  
*Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the skin.  
 Avoid contact with the eyes and skin.*
- **Breathing equipment:**  
*Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.*

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

Use full face shield over protective eye wear when there is a risk of a splash.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Not determined. |
| <b>Odor:</b>           | Characteristic  |
| <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                       |               |
|-----------------------|---------------|
| <b>Melting point:</b> | Undetermined. |
| <b>Boiling point:</b> | Undetermined  |

· **Flash point:** > 93 °C (>199.4 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 340 °C (644 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Flammable limits:**

|               |                |
|---------------|----------------|
| <b>Lower:</b> | Not determined |
| <b>Upper:</b> | Not determined |

· **Vapor pressure:** Not determined.

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- |   |  |
|---|--|
| <b>· Specific gravity:</b>  |  |
| <b>Relative density</b>   | Not determined.                            |
| <b>Vapor density</b>  | Not determined.                            |
| <b>Evaporation rate</b>   | Not determined.                            |
| <b>· Solubility in / Miscibility with Water:</b>                  |  |
|   | Not miscible or difficult to mix.          |
| <b>· Partition coefficient (n-octanol/water):</b> Not determined. |  |
| <b>· Viscosity:</b>   |  |
| <b>Dynamic:</b>   | Not determined.                            |
| <b>Kinematic:</b>   | Not determined.                            |
| <b>· Solvent content:</b>   |  |
| <b>Solids content:</b>  | Not available.                             |
| <b>Other information</b>  | No further relevant information available. |

## \* 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**  
Exposure to high temperatures.  
Moisture
- **Incompatible materials:** Strong oxidizers, acids, and bases.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

## \* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 141-05-9 diethyl maleate

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 3,200 mg/kg (rat)    |
| Dermal | LD50 | 4,000 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Skin irritant.
- **on the eye:** Causes serious eye irritation.
- **Sensitization:** Inhalation - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

|          |                           |   |
|----------|---------------------------|---|
| 103-23-1 | Di-(2-ethylhexyl) adipate | 3 |
|----------|---------------------------|---|

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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** At present there are no ecotoxicological assessments.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADN, IMDG, IATA</b></li> </ul>  | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, ADN, IMDG, IATA</b></li> </ul>                            | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>   | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>                                | Yes             |
| <ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> </ul>  | Not applicable. |
| <ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>                   | Not applicable. |

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|                          |               |
|--------------------------|---------------|
| · UN "Model Regulation": | not regulated |
|--------------------------|---------------|

### 15 Regulatory information

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

|  |
|--|
| · <b>Section 355 (extremely hazardous substances):</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Section 313 (Specific toxic chemical listings):</b> |
|--|

|                       |
|-----------------------|
| 107-21-1   ethanediol |
|-----------------------|

|   |
|---|
| · <b>TSCA (Toxic Substances Control Act):</b> |
|---|

|  |
|--|
| All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements. |
|--|

|                         |
|-------------------------|
| · <b>Proposition 65</b> |
|-------------------------|

|   |
|---|
| Please contact H.B. Fuller for more information regarding Proposition 65 on this product:<br>reg.request@hbfuller.com . |
|---|

|   |
|---|
| · <b>(DSL) Canada Domestic Substance List</b> |
|---|

|  |
|--|
| All components of this product are on the DSL(Canada Domestic Substance list) or are exempt from DSL requirements. |
|--|

|   |
|---|
| · <b>New Jersey Right-to-Know List:</b> |
|---|

|                                      |
|--------------------------------------|
| 103-23-1   Di-(2-ethylhexyl) adipate |
|--------------------------------------|

|                       |
|-----------------------|
| 107-21-1   ethanediol |
|-----------------------|

|   |
|---|
| · <b>New Jersey Special Hazardous Substance List:</b> |
|---|

|                                      |    |
|--------------------------------------|----|
| 103-23-1   Di-(2-ethylhexyl) adipate | CA |
|--------------------------------------|----|

|   |
|---|
| · <b>Pennsylvania Right-to-Know List:</b> |
|---|

|                                      |
|--------------------------------------|
| 103-23-1   Di-(2-ethylhexyl) adipate |
|--------------------------------------|

|                       |
|-----------------------|
| 107-21-1   ethanediol |
|-----------------------|

|   |
|---|
| · <b>Pennsylvania Special Hazardous Substance List:</b> |
|---|

|                                      |   |
|--------------------------------------|---|
| 103-23-1   Di-(2-ethylhexyl) adipate | E |
|--------------------------------------|---|

|                       |   |
|-----------------------|---|
| 107-21-1   ethanediol | E |
|-----------------------|---|

|                                     |
|-------------------------------------|
| · <b>Carcinogenicity categories</b> |
|-------------------------------------|

|  |
|--|
| · <b>EPA (Environmental Protection Agency)</b> |
|--|

|                                      |   |
|--------------------------------------|---|
| 103-23-1   Di-(2-ethylhexyl) adipate | C |
|--------------------------------------|---|

|   |
|---|
| · <b>TLV (Threshold Limit Value established by ACGIH)</b> |
|---|

|                       |    |
|-----------------------|----|
| 107-21-1   ethanediol | A4 |
|-----------------------|----|

|   |
|---|
| · <b>MAK (German Maximum Workplace Concentration)</b> |
|---|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|   |
|---|
| · <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b> |
|---|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|                                |
|--------------------------------|
| · <b>National regulations:</b> |
|--------------------------------|

|  |
|--|
| · <b>Water hazard class:</b> Water hazard class 1 (Self-assessment): slightly hazardous for water. |
|--|

|   |
|---|
| · <b>Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out. |
|---|

USA

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### 16 Other information

Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, Royal Adhesives & Sealants makes no representations as to the completeness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Royal Adhesives & Sealants or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.

· **Department issuing SDS:**

Global Regulatory Department.

reg.request@hbfuller.com

· **Creation Date:** 01/31/2019

· **Date of preparation / last revision** 01/31/2019 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3