

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

Printing Date 10/16/2018

Revision Number 1

Revision Date 10/16/2018

**1 Identification**

- **Product identifier**
- **Trade name:** *Q-Seal 290S (Grey/Black)*
- **Relevant identified uses of the substance or mixture.**  
Sealant  
Industrial Use Only.
- **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.

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

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



GHS08

- **Signal word** *Danger*
- **Hazard statements**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure.

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· **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.
- 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: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
- IF exposed or concerned: Get medical advice/attention.
- Specific treatment (see on this label).
- Get medical advice/attention if you feel unwell.
- If skin irritation or rash occurs: Get medical advice/attention.
- If experiencing respiratory symptoms: Call a poison center/doctor.
- Wash contaminated clothing before reuse.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

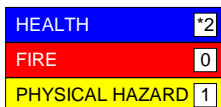
· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 1

· **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = \*2  
FIRE 0 Fire = 0  
PHYSICAL HAZARD 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:** Adhesive

· **Hazardous components:**

108-65-6	2-methoxy-1-methylethyl acetate	5-20%
117-81-7	bis(2-ethylhexyl) phthalate	2.5-10%
101-68-8	4,4'-methylenediphenyl diisocyanate	≤2.5%
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues {polymer exempt}	≤2.5%
4083-64-1	4-isocyanatosulphonyltoluene	≤1%

### \* 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.
- **After eye contact:** Rinse opened eye for 20 minutes under running water. Call a Doctor immediately.
- **After swallowing:** 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 or alcohol resistant foam.  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Protective clothing and respiratory protective device.

### 6 Accidental release measures

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

108-65-6	2-methoxy-1-methylethyl acetate	50 ppm
117-81-7	bis(2-ethylhexyl) phthalate	10 mg/m <sup>3</sup>
101-68-8	4,4'-methylenediphenyl diisocyanate	0.45 mg/m <sup>3</sup>
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)	0.15 mg/m <sup>3</sup>
100-42-5	styrene	20 ppm

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· PAC-2:		
108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
117-81-7	bis(2-ethylhexyl) phthalate	1,000 mg/m <sup>3</sup>
101-68-8	4,4'-methylenediphenyl diisocyanate	5 mg/m <sup>3</sup>
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)	3.6 mg/m <sup>3</sup>
100-42-5	styrene	130 ppm
· PAC-3:		
108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
117-81-7	bis(2-ethylhexyl) phthalate	6,100 mg/m <sup>3</sup>
101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m <sup>3</sup>
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)	22 mg/m <sup>3</sup>
100-42-5	styrene	1100* ppm

## 7 Handling and storage

### · Handling:

#### · Precautions for safe handling

Avoid prolonged or repeated contact with skin.

Avoid contact with eyes.

Wash thoroughly after handling.

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

Open and handle receptacle with care.

Prevent formation of aerosols.

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

Product reacts with water. Reaction may produce heat and/or gases. Container may rupture from gas generation in a fire situation. This reaction may be violent.

Keep container closed when not in use.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

#### · 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.

#### · Information about storage in one common storage facility: Keep away from open flames and high temperatures.

#### · Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

#### · 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.

<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
WEEL	Long-term value: 50 ppm

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### 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

· **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:**

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.

· **Protection of hands:**



Protective gloves

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

· **Material of gloves**

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

· **Body protection:** Protective work clothing

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### 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Grey-black
· <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>	146 °C (294.8 °F)

· **Flash point:** Not applicable.

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

· **Ignition temperature:** 315 °C (599 °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>	1.5 Vol %
· <b>Upper:</b>	10.8 Vol %

· **Vapor pressure:** Not determined.

· **Specific gravity at 20 °C (68 °F):** 1.32 g/cm<sup>3</sup> (11.0154 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Insoluble

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Other information** VOC content: Less than 25%

### 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**

May produce violent reactions with bases and numerous organic substances including alcohols and amines.

MDI reacts slowly with water to form Carbon Dioxide gas. This gas can cause sealed containers to expand and possibly rupture. Contact with moisture, other materials that react with isocyanates, or temperatures above 350F, may cause polymerization.

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- **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 dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, hydrogen cyanide, isocyanic acid, other undetermined compounds.

## 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:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**  
Inhalation - Sensitization possible through inhalation.  
Skin Contact - Sensitization possible through skin contact.
- **Additional toxicological information:**  
May cause allergic respiratory reaction.

Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. Use skin protection.

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
101-68-8	4,4'-methylenediphenyl diisocyanate	3
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues {polymer exempt}	3
100-42-5	styrene	2B

- **NTP (National Toxicology Program)**

117-81-7	bis(2-ethylhexyl) phthalate	R
100-42-5	styrene	R

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

None of the ingredients is listed.

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### 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

· <b>UN-Number</b>	
· <b>DOT, ADN, IMDG, IATA</b>	not regulated
· <b>UN proper shipping name</b>	
· <b>DOT, ADN, IMDG, IATA</b>	not regulated
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADN, IMDG, IATA</b>	
· <b>Class</b>	not regulated
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	not regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	MDI (CAS 101-68-8) exhibits a CERCLA RQ equal to 5,000 pounds. Quantities less than the RQ amount are not regulated in transportation.
· <b>UN "Model Regulation":</b>	not regulated

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## 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
101-68-8	4,4'-methylenediphenyl diisocyanate
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)
100-42-5	styrene

· **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
101-68-8	4,4'-methylenediphenyl diisocyanate
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)
100-42-5	styrene

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

117-81-7	bis(2-ethylhexyl) phthalate			CA, TE
100-42-5	styrene			CA, F3, R2

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

117-81-7	bis(2-ethylhexyl) phthalate
101-68-8	4,4'-methylenediphenyl diisocyanate
100-42-5	styrene

· **Pennsylvania Special Hazardous Substance List:**

117-81-7	bis(2-ethylhexyl) phthalate			ES
101-68-8	4,4'-methylenediphenyl diisocyanate			E
100-42-5	styrene			E

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

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

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

117-81-7	bis(2-ethylhexyl) phthalate			A3
100-42-5	styrene			A4

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· <b>MAK (German Maximum Workplace Concentration)</b>		
117-81-7	bis(2-ethylhexyl) phthalate	4
101-68-8	4,4'-methylenediphenyl diisocyanate	4
9016-87-9	diphenylmethanediisocyanate, isomeres and homologues (polymer exempt)	4
100-42-5	styrene	5
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
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.

· **Creation Date:** 10/16/2018

· **Contact:**

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

· **Date of preparation / last revision** 10/16/2018 / -

· **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)

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

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1A: Reproductive toxicity – Category 1A

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2