

Safety Data Sheet
acc. to OSHA HCS

Printing Date 07/02/2018

Revision Number 4

Revision Date 07/02/2018

* **1 Identification**

- **Product identifier**
- **Trade name: Double Bubble Epoxy Machineable Part A (04002)**
- **Relevant identified uses of the substance or mixture.** Adhesive
- **Application of the substance / the mixture** Adhesives
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Royal Adhesives & Sealants
800 E. Anaheim Street
Wilmington, CA 90744
(310) 830-9904
- **Information department:** Environment protection 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**



Skin Irrit. 2 H315 Causes skin irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

Eye Irrit. 2B H320 Causes eye irritation.

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



GHS07

- **Signal word** Warning
- **Hazard statements**
Causes skin and eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
- **Precautionary statements**
Avoid breathing 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.
If on skin: Wash with plenty of water.

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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 or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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.

· **Additional information:**

20.5 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

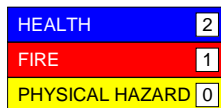


Health = 2

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:**

25068-38-6	Bisphenol A Epoxy Resin	50-100%
7429-90-5	Aluminium	5-20%
3101-60-8	Glycidyl Ether	2.5-10%
546-93-0	Magnesite	≤0.5%

4 First-aid measures

· **Description of first aid measures**

· **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.*

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** *Seek medical treatment.*

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- **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:**
CO₂, 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**
- **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).
- **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:**

25068-38-6	Bisphenol A Epoxy Resin	90 mg/m ³
112945-52-5	Amorphous Silica	18 mg/m ³
546-93-0	Magnesite	45 mg/m ³

· **PAC-2:**

25068-38-6	Bisphenol A Epoxy Resin	990 mg/m ³
112945-52-5	Amorphous Silica	100 mg/m ³
546-93-0	Magnesite	260 mg/m ³

· **PAC-3:**

25068-38-6	Bisphenol A Epoxy Resin	5,900 mg/m ³
112945-52-5	Amorphous Silica	630 mg/m ³
546-93-0	Magnesite	1,600 mg/m ³

* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Use only in well ventilated areas.
Prevent formation of aerosols.

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- **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:** Keep away from open flames and high temperatures.
- **Further information about storage conditions:** 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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

546-93-0 Magnesite

PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	TLV withdrawn

- **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 eyes and skin.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **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.
- **Body protection:** Protective work clothing

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9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Liquid
Color:	Gray
· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point:	Undetermined.
Boiling point:	Undetermined
· Flash point:	> 96 °C (>204.8 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	400 °C (752 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Flammable limits:	
Lower:	Not Available
Upper:	Not Available
· Vapor pressure:	Not determined.
· Specific gravity at 20 °C (68 °F):	1.47
· 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:	
VOC (Per EPA 24)	32.6 GMS/L
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 water releases flammable gases.
- **Conditions to avoid** Avoid high temperatures. Avoid freezing.

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- **Incompatible materials:**
Reacts with oxidizing agents.
Reacts with acids.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Aldehydes
Acids

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Skin irritant.
- **on the eye:** Irritating effect.
- **Sensitization:** Skin Contact - May cause allergic skin reaction.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

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

14807-96-6	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT · IMDG, IATA 	<p style="text-align: right;">not regulated UN3082</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA 	<p style="text-align: right;">not regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol A Epoxy Resin), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol A Epoxy Resin)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class 	<p style="text-align: right;">not regulated</p>
<ul style="list-style-type: none"> · IMDG, IATA <div style="text-align: center;">  </div>	<p style="text-align: right;">9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Packing group · DOT · IMDG, IATA 	<p style="text-align: right;">not regulated III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA): 	<p style="text-align: right;">Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category 	<p style="text-align: right;">Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p style="text-align: right;">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	<p style="text-align: right;">Product packaging conforms to 49 CFR 173.4 - Requirements for "Small Quantity Exceptions"</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p style="text-align: right;">UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN), 9, III</p>

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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):**

7429-90-5 Aluminium

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

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

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **(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:**

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

546-93-0 Magnesite

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

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

CA

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

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

· **Pennsylvania Special Hazardous Substance List:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

A4

7429-90-5 Aluminium

A4

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

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

3B

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

None of the ingredients is listed.

· **National regulations:**

· **Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.**

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· **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:** Environment protection department.

· **Creation Date:** 07/02/2018

· **Date of preparation / last revision** 07/02/2018 / 3

· **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

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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)

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. 2B: Serious eye damage/eye irritation – Category 2B

Skin Sens. 1: Skin sensitisation – Category 1

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

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1 Identification

- **Product identifier**
- **Trade name: Double Bubble Epoxy Machineable Part B (04002)**
- **Relevant identified uses of the substance or mixture.** Curing Agent
- **Application of the substance / the mixture** Epoxy curing agent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Royal Adhesives & Sealants
800 E. Anaheim Street
Wilmington, CA 90744
(310) 830-9904
- **Information department:** Environment protection 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

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

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



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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**



GHS05



GHS07



GHS08

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- **Signal word** *Danger*
- **Hazard statements**
 - Harmful if swallowed.*
 - Causes severe skin burns and eye damage.*
 - May cause an allergic skin reaction.*
 - Suspected of damaging 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 dusts or mists.*
 - Wash thoroughly after handling.*
 - Do not eat, drink or smoke when using this product.*
 - 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.*
 - If swallowed: Call a poison center/doctor if you feel unwell.*
 - If swallowed: Rinse mouth. Do NOT induce vomiting.*
 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
 - 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.*
 - Immediately call a poison center/doctor.*
 - 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.*
 - 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 = 3

Fire = 1

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 3 Health = 3

FIRE 1 Fire = 1

PHYSICAL HAZARD 0 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*

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· Hazardous components:		
	Aromatic Amine	25-50%
80-05-7	4,4'-isopropylidenediphenol	25-50%
	Aliphatic Amine	10-25%
25068-38-6	Bisphenol A Epoxy Resin	2.5-10%
111-40-0	Diethylenetriamine (DETA)	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.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Seek medical treatment.
- **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:**
CO₂, 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**
- **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).
- **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:		
80-05-7	4,4'-isopropylidenediphenol	15 mg/m ³
	Aliphatic Amine	13 mg/m ³

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25068-38-6	Bisphenol A Epoxy Resin	90 mg/m ³
· PAC-2:		
80-05-7	4,4'-isopropylidenediphenol	110 mg/m ³
	Aliphatic Amine	140 mg/m ³
25068-38-6	Bisphenol A Epoxy Resin	990 mg/m ³
· PAC-3:		
80-05-7	4,4'-isopropylidenediphenol	650 mg/m ³
	Aliphatic Amine	850 mg/m ³
25068-38-6	Bisphenol A Epoxy Resin	5,900 mg/m ³

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:** No special measures required.
- **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:** Keep away from open flames and high temperatures.
- **Further information about storage conditions:** 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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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:** Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective gloves

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

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- **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.
- **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Liquid

Color: Amber

· **Odor:** Amine-like

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point: Undetermined.

Boiling point: Undetermined

· **Flash point:** > 96 °C (>204.8 °F)

· **Ignition temperature:** 420 °C (788 °F)

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

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

· Flammable limits:

Lower: Not determined

Upper: Not determined

· **Specific gravity at 20 °C (68 °F):** 1.09

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· Solvent content:

Organic solvents: 0.0 %

VOC (Per EPA 24) 161.8 GMS/L

Solids content: Not available.

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· **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** No further information is available.
- **Conditions to avoid** Avoid high temperatures. Avoid freezing.
- **Incompatible materials:** Reacts with strong oxidizing agents.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides
Ammonia

11 Toxicological information

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

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

Aromatic Amine

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

Dermal	LD50	>2,000 mg/kg (rat)
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80-05-7 4,4'-isopropylidenediphenol

Oral	LD50	3,250 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)

Dermal	LD50	3,000 mg/kg (rabbit)
--------	------	----------------------

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Causes serious eye damage
- **Sensitization:** Skin Contact - May cause allergic skin reaction.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **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.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **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 | UN1760 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Corrosive liquids, n.o.s. (Diethylenetriamine, Aliphatic Amine) |
| · DOT | CORROSIVE LIQUID, N.O.S. (DIETHYLENETRIAMINE, Aliphatic Amine), MARINE POLLUTANT |
| · IMDG | CORROSIVE LIQUID, N.O.S. (DIETHYLENETRIAMINE, Aliphatic Amine) |
| · IATA | CORROSIVE LIQUID, N.O.S. (DIETHYLENETRIAMINE, Aliphatic Amine) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| <hr style="border-top: 1px dashed black;"/> | |
| · IMDG | |
|  | |
| · Class | 8 Corrosive substances |

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· Label	8
· IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	III
· DOT, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: Aromatic Amine
· Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Product packaging conforms to 49 CFR 173.4 - Requirements for "Small Quantity Exceptions".
· DOT	
· Remarks:	Special marking with the symbol (fish and tree).
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUIDS, N.O.S. (DIETHYLENTRIAMINE, ALIPHATIC AMINE), 8, III, ENVIRONMENTALLY HAZARDOUS

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):

80-05-7 | 4,4'-isopropylidenediphenol

· TSCA (Toxic Substances Control Act):

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

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**

80-05-7 | 4,4'-isopropylidenediphenol

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **(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:**

80-05-7 | 4,4'-isopropylidenediphenol

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

None of the ingredients is listed.

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

80-05-7 | 4,4'-isopropylidenediphenol

· **Pennsylvania Special Hazardous Substance List:**

80-05-7 | 4,4'-isopropylidenediphenol

E

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **National regulations:**

· **Water hazard class:** Water hazard class 2 (Self-assessment): 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:** Environment protection department.

· **Creation Date:** 07/02/2018

· **Date of preparation / last revision** 07/02/2018 / 4

· **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

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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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
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

USA