1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Capri AR4000 Urethane Adhesive

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    Royal Adhesives And Sealants, LLC
    2001 W. Washington Street
    South Bend IN 46628-2023

- **Emergency telephone number:**
  - ChemTrec: UNITED STATES 1(800)424-9300  INTERNATIONAL 703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  - Harmful
  - **May cause sensitisation by inhalation.**

- **Classification system:**
  - The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**
  - **Labelling according to EU guidelines:**
    The product has been classified and marked in accordance with directives on hazardous materials.

  - **Code letter and hazard designation of product:**
    Harmful

  - **Hazard-determining components of labelling:**
    4,4'-methylenediphenyl diisocyanate

  - **Risk phrases:**
    - May cause sensitisation by inhalation.

  - **Safety phrases:**
    - Keep out of the reach of children.
    - Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
    - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
    - Dispose of this material and its container to hazardous or special waste collection point.
    - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

  - **Special labelling of certain preparations:**
    - Contains isocyanates. See information supplied by the manufacturer.

- **NFPA ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 1
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - HEALTH Health = 1
  - FIRE Fire = 1
  - PHYSICAL HAZARD Physical Hazard = 0

(Contd. on page 2)
Trade name: Capri AR4000 Urethane Adhesive

- Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Adhesive
- **Dangerous components:**
  and Non-Dangerous Components:

<table>
<thead>
<tr>
<th>Chemical Code</th>
<th>Chemical Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1317-65-3</td>
<td>Calcium Carbonate</td>
<td>25-50%</td>
</tr>
<tr>
<td>101-68-8</td>
<td>4,4’-methylene diphenyl diisocyanate</td>
<td>≤1.0%</td>
</tr>
</tbody>
</table>

- **Respiratory Sensitivity:** H334; **Acute Toxicity:** H332; **Skin Irritation:** H315; **Eye Irritation:** H319; **Skin Sensitivity:** H317; **STOT SE:** H335

- **Additional information:** For the wording of the listed risk phrases refer to section 15.

### 4 First aid measures

- **Description of first aid measures**
- **After inhalation:**
  Remove to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
- **After skin contact:**
  Wipe excess from skin. Immediately wash with water and soap and rinse thoroughly. If skin becomes irritated seek medical attention.
- **After eye contact:**
  Rinse opened eye for 15 minutes under running water. If eye becomes irritated, obtain medical treatment.
- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
  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.
Trade name: Capri AR4000 Urethane Adhesive

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).
  DO NOT secure lid to collection container. Allow containers to vent for 72 hours to let carbon dioxide to escape.
  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.

### 7 Handling and storage

- **Handling**:
  - **Precautions for safe handling**
    - Avoid prolonged or repeated contact with skin.
    - Avoid contact with eyes.
    - Wash thoroughly after handling.
    - Prevent formation of aerosols.
  - **Information about protection against explosions and fires**
    - Store in cool dry area away from direct heat.
    - Product reacts with water. Reaction may produce heat and/or gases.
  - **Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and receptacles**: Store above 40F.
    - **Information about storage in one common storage facility**: Store away from oxidizing agents.
    - **Further information about storage conditions**: None.
    - **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**:
    - **101-68-8 4,4’-methylene diphenyl disocyanate (≤1.0%)**
      - **PEL**: Short-term value: C 0.2 mg/m³, C 0.02 ppm
      - **REL**: Short-term value: C 0.2* mg/m³, C 0.02* ppm
      - **Long-term value**: 0.05 mg/m³, 0.005 ppm
      - **10-min**: 0.051 mg/m³, 0.005 ppm
  - **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.
    - Wash hands before breaks and at the end of work.
  - **Breathing equipment**:
    - Not necessary if room is well-ventilated.
In the absence of adequate ventilation, use NIOSH-certified respiratory protection when chemical exposure is excessive or above an established exposure limit. Comply with OSHA 29 CFR 1910.134.

- **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 breakthrough 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

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - Form: Liquid
      - Color: Tan
      - Odor: Characteristic
      - Odour threshold: Not determined.
  
  - pH-value: Not determined.

- **Change in condition**
  - Melting point: Undetermined.
  - Boiling point: Undetermined.
  
  - Flash point: > 93°C (> 199 °F)

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

- **Ignition temperature:**
  - Decomposition temperature: Not determined.
  - Auto igniting: Product is not selfigniting.

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

- **Flammable limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:** Not determined.

- **Specific gravity at 20°C (68 °F):** 1.38 g/cm³ (11.516 lbs/gal)

- **Relative density** Not determined.
Trade name: Capri AR4000 Urethane Adhesive

- Vapour density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix.
- Segregation coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Solvent content:
  - Organic solvents: 0.0 %
- Solids content: 100.0 %
- Other information:
  - Volatile Organic Content (VOC) - <30g/l

10 Stability and reactivity

- Reactivity
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  - Possibility of hazardous reactions: Reacts with water.
  - Conditions to avoid: Heat, flames, sparks.
- 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:
    - 101-68-8 4,4'-methylene diphenyl disocyanate
      - Oral LD50: 2200 mg/kg (mouse)
- Primary irritant effect:
  - on the skin: May irritate the skin.
  - on the eye: May irritate the eye.
- Sensitization:
  - Inhalation - Sensitization possible through inhalation.
  - Skin Contact - Sensitization possible through skin contact.
- Additional toxicological information:
  - Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product.
  - May cause allergic respiratory reaction. Respiratory sensitization is possible by skin contact. Use skin protection.
  - The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
Trade name: Capri AR4000 Urethane Adhesive

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:
  Water hazard class 1 (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· 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 not be disposed of together with household garbage. Do not allow product to reach sewage system.
  Must be specially treated adhering to official regulations.
  Disposal must be made according to official regulations.
· Uncleaned packagings:
· Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number
  · DOT, ADR, ADN, IMDG, IATA: Void
· UN proper shipping name
  · DOT, ADR, ADN, IMDG, IATA: Void
· Transport hazard class(es)
  · DOT, ADR, ADN, IMDG, IATA
  · Class: Void
· Packing group
  · DOT, ADR, IMDG, IATA: Void

(Contd. on page 7)
Trade name: Capri AR4000 Urethane Adhesive

15 Regulatory information

- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": -

- 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):
  101-68-8 4,4'-methylene diisocyanate
- 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:
  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.
- Cancerogenity categories
  101-68-8 4,4'-methylene diisocyanate CBD
- EPA (Environmental Protection Agency)
  101-68-8 4,4'-methylene diisocyanate
- TLV (Threshold Limit Value established by ACGIH)
  None of the ingredients listed.
- MAK (German Maximum Workplace Concentration)
  101-68-8 4,4'-methylene diisocyanate 4
- NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.
- OSHA-Ca (Occupational Safety & Health Administration)
  None of the ingredients is listed.
- Product related hazard informations:
  The product has been classified and marked in accordance with directives on hazardous materials.
- Hazard-determining components of labelling:
  4,4'-methylene diisocyanate
- Risk phrases:
  May cause sensitisation by inhalation.
- Special labeling of certain preparations:
  Contains isocyanates. See information supplied by the manufacturer.
· **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.

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**16 Other information**

Although the information and recommendations set forth in this MSDS are presented in good faith and are believed to be correct as of the date of this MSDS, 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 MSDS.

- **Department issuing MSDS:** Environment protection department.
- **Abbreviations and acronyms:**
  - 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
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent

USA