1. Identification

Product name: Sarnacol® AD Board Adhesive Part 1

Supplier: Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
USA
www.sikausa.com

Telephone: (201) 933-8800
Telefax: (201) 804-1076
E-mail address: ehs@sika-corp.com

Emergency telephone: CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Recommended use of the chemical and restrictions on use:
For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Acute toxicity, Category 4 (Inhalation) H332: Harmful if inhaled.
Skin irritation, Category 2 H315: Causes skin irritation.
Eye irritation, Category 2B H320: Causes eye irritation.
Respiratory sensitization, Category 1 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1 H317: May cause an allergic skin reaction.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 2 (Inhalation) H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms: 

Signal Word: Danger

Hazard Statements:
H315 + H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary Statements:

Prevention:
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.
P285 In case of inadequate ventilation wear respiratory protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P362 Take off contaminated clothing and wash before reuse.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenylmethaneiisocyanate, isomers and homologues</td>
<td>9016-87-9</td>
<td>&gt;= 50 - &lt;= 100 %</td>
</tr>
<tr>
<td>4,4'-methylenediphenyl disocyanate</td>
<td>101-68-8</td>
<td>&gt;= 25 - &lt;= 50 %</td>
</tr>
<tr>
<td>methylenediphenyl disocyanate</td>
<td>26447-40-5</td>
<td>&gt;= 5 - &lt;= 10 %</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
4. First aid measures

If inhaled
- Move to fresh air.
- Consult a physician after significant exposure.

In case of skin contact
- Take off contaminated clothing and shoes immediately.
- Wash off with soap and plenty of water.
- If symptoms persist, call a physician.

In case of eye contact
- Remove contact lenses.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.

If swallowed
- Clean mouth with water and drink afterwards plenty of water.
- Do not induce vomiting without medical advice.
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- Obtain medical attention.

Most important symptoms and effects, both acute and delayed
- Irritant effects
- Sensitizing effects
- Asthmatic appearance
- Cough
- Respiratory disorder
- Allergic reactions
- Headache
- See Section 11 for more detailed information on health effects and symptoms.

Causes skin and eye irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders
- Move out of dangerous area.
- Consult a physician.
- Show this material safety data sheet to the doctor in attendance.

Notes to physician
- Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific extinguishing
- Collect contaminated fire extinguishing water separately. This
methods

must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Deny access to unprotected persons.

Environmental precautions

Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling

Avoid formation of aerosol. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Follow standard hygiene measures when handling chemical products.

Conditions for safe storage

Store in original container. Keep in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Store in accordance with local regulations.

Materials to avoid

No data available

No data available

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Basis</th>
<th>Value</th>
<th>Exposure limit(s)*</th>
</tr>
</thead>
</table>

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Safety Data Sheet
Sarnacol® AD Board Adhesive Part 1

Revision Date 04/13/2018
Print Date 04/13/2018

<table>
<thead>
<tr>
<th>Form of exposure</th>
<th>4,4’-methylene-diphenyl diisocyanate</th>
<th>ACGIH</th>
<th>TWA</th>
<th>0.005 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>C</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>OSHA P0</td>
<td>C</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td>methylene-diphenyl diisocyanate</td>
<td>OSHA Z-1</td>
<td>C</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>OSHA P0</td>
<td>C</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</td>
</tr>
</tbody>
</table>

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

**Engineering measures**
Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Personal protective equipment**

**Respiratory protection**
Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

**Hand protection**
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Eye protection**
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
### Skin and body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

### Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>dark amber</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>ca. 428 °F (220 °C)</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>482 °F (250 °C)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit (Vol%)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit (Vol%)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Note: Not applicable</td>
</tr>
<tr>
<td>Melting point/range / Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>392 °F (200 °C)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.01 mmHg (0.01 hpa)</td>
</tr>
<tr>
<td>Density</td>
<td>ca. 1.22 g/cm³</td>
</tr>
<tr>
<td></td>
<td>at 73 °F (23 °C)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Note: immiscible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>200 mPa·s</td>
</tr>
<tr>
<td></td>
<td>at 68 °F (20 °C)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: Stable under recommended storage conditions.

Conditions to avoid:

- Do not expose to temperatures above: 177 °C
- Exposure to moisture.

No data available

Incompatible materials: No data available

Hazardous decomposition products:

11. Toxicological information

Acute toxicity

Harmful if inhaled.

Ingredients:

Diphenylmethanediisocyanate, isomers and homologues:

- Acute oral toxicity: LD50 Oral (Rat): > 10,000 mg/kg
- Acute inhalation toxicity: Acute toxicity estimate: 1.5 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: Expert judgment

4,4’-methylene-diphenyl diisocyanate:

- Acute inhalation toxicity: Acute toxicity estimate: 1.5 mg/l
  Test atmosphere: dust/mist
  Method: Expert judgment

Skin corrosion/irritation

Causes skin irritation.
Serious eye damage/eye irritation
Causes eye irritation.

Respiratory or skin sensitization
Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure if inhaled.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.
IARC: Not applicable
NTP: Not applicable

12. Ecological information

Other information
Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods
Waste from residues: Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.
14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list
All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards
Chronic Health Hazard
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 302
This material does not contain any components with a section 302 EHS TPQ.

SARA 313
The following components are subject to reporting levels established by SARA Title III, Section 313:
Diphenylmethanediisocyanate, isomers and homologues 9016-87-9 62.00 %
4,4'-methylene diphenyl diisocyanate 101-68-8 33.00 %

Clean Air Act
Safety Data Sheet

Sarnacol® AD Board Adhesive Part 1

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Ozone-Depletion Potential

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-methylene diphenyl diisocyanate</td>
<td>101-68-8</td>
<td>33.00 %</td>
</tr>
</tbody>
</table>

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

16. Other information

HMIS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>☐ 3</td>
</tr>
<tr>
<td>Flammability</td>
<td>☐ 1</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>☐ 0</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>☒ X</td>
</tr>
</tbody>
</table>

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

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Material number: 444624