according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : DOWSIL™ 817 High Modulus Adhesive White

Product code : 03281914

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Adhesive, binding agents

stance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : DOW CHEMICAL COMPANY LIMITED

STATION ROAD, BIRCH VALE, HIGH PEAK

DERBYSHIRE England SK22 1BR

UNITED KINGDOM

Telephone : +44 (0) 1663 746518

Telefax : +44 (0) 1663 746605

E-mail address of person responsible for the SDS

: SDSQuestion@dow.com

1.4 Emergency telephone number

24-Hour Emergency Contact : 0031 115 694 982

Local Emergency Contact : 00 31 115 69 4982

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Precautionary statements : Prevention:

P271 Use only outdoors or in a well-ventilated area.

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

### **Additional Labelling**

EUH210 Safety data sheet available on request.

EUH208 Contains Methyltrimethoxysilane. May produce an allergic reaction.

#### 2.3 Other hazards

None known.

### **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Chemical nature : Silicone elastomer

#### **Hazardous components**

| Chemical name                | CAS-No.             | Classification      | Concentration   |
|------------------------------|---------------------|---------------------|-----------------|
|                              | EC-No.              |                     | (% w/w)         |
|                              | Index-No.           |                     |                 |
|                              | Registration number |                     |                 |
| Methyltrimethoxysilane       | 1185-55-3           | Flam. Liq. 2; H225  | >= 0.1 - < 1    |
|                              | 214-685-0           | Skin Sens. 1B; H317 |                 |
|                              | 01-2119517436-40    |                     |                 |
| Octamethylcyclotetrasiloxane | 556-67-2            | Flam. Liq. 3; H226  | >= 0.1 - < 0.25 |
|                              | 209-136-7           | Repr. 2; H361f      |                 |
|                              | 014-018-00-1        | Aquatic Chronic 4;  |                 |
|                              | 01-2119529238-36    | H413                |                 |

For explanation of abbreviations see section 16.

#### **SECTION 4: First aid measures**

### 4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment

when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.

Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty

of water.

Remove contaminated clothing and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
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 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
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If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

# **SECTION 5: Firefighting measures**

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod: :

ucts

Carbon oxides Metal oxides Formaldehyde Silicon oxides

5.3 Advice for firefighters

Special protective equipment:

for firefighters

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

Use personal protective equipment.

Specific extinguishing me-

thods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

# **SECTION 6: Accidental release measures**

# 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Follow safe handling advice and personal protective equip-

ment recommendations.

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

### 6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

## 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not swallow.

Avoid contact with eyes.

Avoid prolonged or repeated contact with skin.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Take care to prevent spills, waste and minimize release to the

environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are

located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

# 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep in properly labelled containers. Store in accordance with

the particular national regulations.

Advice on common storage : Do not store with the following product types:

Strong oxidizing agents

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

# 7.3 Specific end use(s)

Specific use(s) : These precautions are for room temperature handling. Use at

elevated temperature or aerosol/spray applications may re-

quire added precautions.

# **SECTION 8: Exposure controls/personal protection**

# 8.1 Control parameters

# **Occupational Exposure Limits**

| Components                                  | CAS-No.  | Value type (Form of exposure) | Control parameters | Basis   |
|---|--|-------------------------------|--------------------|---------|
| Calcium carbonate treated with stearic acid | Not As-<br>signed  | TWA (inhalable dust)          | 10 mg/m3           | GB EH40 |
| Further information                         | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used |                               |                    |         |
| Further information                         | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate   |                               |                    |         |

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

|                                   | body response HSE distinguist inhalable and borne materiate fore available imates to the Fuller definition dusts contain limits should be | e that it elicits, dependence that it elicits, dependence two size fractions of 'respirable'., Inhalal I that enters the nost for deposition in the fraction that penetrations and explanatory components that have complied with., W | y into the human respiratory so<br>not on the nature and size of the<br>ns for limit-setting purposes to<br>ole dust approximates to the<br>ele and mouth during breathing<br>respiratory tract. Respirable<br>tes to the gas exchange region<br>material are given in MDHS1<br>we their own assigned WEL, where no specific short-term end-<br>term exposure should be used. | the particle. termed fraction of air- g and is there- dust approx- on of the lung. 4/3., Where all the relevant xposure limit is |
|-----------------------------------|---|---|---|--|
| Methyltrimethox-<br>ysilane       | 1185-55-3   | TWA   | 7.5 ppm   | DCC OEL  |
| Octamethylcyclote-<br>trasiloxane | 556-67-2  | TWA   | 10 ppm  | US WEEL  |

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Calcium carbonate treated with stearic acid

# Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name                    | End Use   | Exposure routes | Potential health effects     | Value                |
|-----------------------------------|-----------|-----------------|------------------------------|----------------------|
| Methyltrimethoxysi-<br>lane       | Workers   | Skin contact    | Acute systemic effects       | 0.38 mg/kg<br>bw/day |
|                                   | Workers   | Inhalation      | Acute systemic effects       | 25.6 mg/m3           |
|                                   | Workers   | Skin contact    | Long-term systemic effects   | 0.38 mg/kg<br>bw/day |
|                                   | Workers   | Inhalation      | Long-term systemic effects   | 25.6 mg/m3           |
|                                   | Consumers | Skin contact    | Acute systemic ef-<br>fects  | 0.3 mg/kg<br>bw/day  |
|                                   | Consumers | Inhalation      | Acute systemic ef-<br>fects  | 6.25 mg/m3           |
|                                   | Consumers | Ingestion       | Long-term systemic effects   | 0.26 mg/kg<br>bw/day |
|                                   | Consumers | Skin contact    | Long-term systemic effects   | 0.3 mg/kg<br>bw/day  |
|                                   | Consumers | Inhalation      | Long-term systemic effects   | 6.25 mg/m3           |
|                                   | Consumers | Ingestion       | Acute systemic effects       | 0.26 mg/kg<br>bw/day |
| Octamethylcyclotetra-<br>siloxane | Workers   | Inhalation      | Acute systemic effects       | 73 mg/m3             |
|                                   | Workers   | Inhalation      | Acute local effects          | 73 mg/m3             |
|                                   | Workers   | Inhalation      | Long-term systemic effects   | 73 mg/m3             |
|                                   | Workers   | Inhalation      | Long-term local ef-<br>fects | 73 mg/m3             |
|                                   | Consumers | Inhalation      | Acute systemic effects       | 13 mg/m3             |

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

| Cons | sumers Inhala | ation Acu         | ite local effects        | 13 mg/m3            |
|------|---------------|-------------------|--------------------------|---------------------|
| Cons | sumers Inhala | ation Lon<br>effe | ng-term systemic<br>ects | 13 mg/m3            |
| Cons | sumers Inhala | ation Lon<br>fect | ng-term local ef-<br>is  | 13 mg/m3            |
| Cons | sumers Inges  | tion Acu<br>fect  | ,                        | 3.7 mg/kg<br>bw/day |
| Cons | sumers Inges  | tion Lon<br>effe  | ,                        | 3.7 mg/kg<br>bw/day |

# Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name               | Environmental Compartment | Value         |
|------------------------------|---------------------------|---------------|
| Methyltrimethoxysilane       | Fresh water               | >= 1.3 mg/l   |
|                              | Marine water              | >= 0.13 mg/l  |
|                              | Fresh water sediment      | >= 1.1 mg/kg  |
|                              | Marine sediment           | >= 0.11 mg/kg |
|                              | Soil                      | >= 0.17 mg/kg |
|                              | Sewage treatment plant    | > 6.9 mg/l    |
| Octamethylcyclotetrasiloxane | Fresh water               | 0.00044 mg/l  |
|                              | Marine water              | 0.000044 mg/l |
|                              | Fresh water sediment      | 0.64 mg/kg    |
|                              | Marine sediment           | 0.064 mg/kg   |
|                              | Soil                      | 0.13 mg/kg    |
|                              | Sewage treatment plant    | > 10 mg/l     |

#### 8.2 Exposure controls

#### **Engineering measures**

Processing may form hazardous compounds (see section 10). Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

# Personal protective equipment

Eye protection : Wear the following personal protective equipment:

Safety glasses

Hand protection

Material : Chemical-resistant gloves

Remarks : For prolonged or repeated contact use protective gloves.

Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the

end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure

potential.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Respiratory protection : Use respiratory protection unless adequate local exhaust

ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Organic vapour type (A)

# **SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

Appearance : paste

Colour : white

Odour : No data available

Odour Threshold : No data available

pH : Not applicable

Melting point/freezing point : No data available

Initial boiling point and boiling

range

Not applicable

Flash point :  $> 100 \, ^{\circ}\text{C}$ 

Method: closed cup

Evaporation rate : Not applicable

Flammability (solid, gas) : Not classified as a flammability hazard

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapour pressure : Not applicable

Relative vapour density : No data available

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

Relative density : 1.39

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

: No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight : No data available

Particle size : No data available

Self-ignition : The substance or mixture is not classified as pyrophoric. The

substance or mixture is not classified as self heating.

# **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

Not classified as a reactivity hazard.

#### 10.2 Chemical stability

Stable under normal conditions.

# 10.3 Possibility of hazardous reactions

Hazardous reactions : Use at elevated temperatures may form highly hazardous

compounds.

Can react with strong oxidizing agents.

Methyl alcohol is formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated

temperatures.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

#### 10.6 Hazardous decomposition products

Thermal decomposition : Formaldehyde

### **SECTION 11: Toxicological information**

## 11.1 Information on toxicological effects

Information on likely routes of : Skin contact exposure Ingestion

Eye contact

# **Acute toxicity**

Not classified based on available information.

# **Components:**

#### Methyltrimethoxysilane:

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: Information taken from reference works and the

literature.

Acute inhalation toxicity : LC50 (Rat): > 42.1 mg/l

Exposure time: 6 h
Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: On basis of test data.

Acute dermal toxicity : LD50 (Rabbit): > 9,500 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: On basis of test data.

#### Octamethylcyclotetrasiloxane:

Acute oral toxicity : LD50 (Rat): > 4,800 mg/kg

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: On basis of test data.

Acute inhalation toxicity : LC50 (Rat): 2975 ppm

Exposure time: 4 h
Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: On basis of test data.

Acute dermal toxicity : LD50 (Rabbit): > 2.5 ml/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: On basis of test data.

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

#### Skin corrosion/irritation

Not classified based on available information.

#### **Components:**

#### Methyltrimethoxysilane:

Species: Rabbit

Result: No skin irritation

Remarks: On basis of test data.

### Octamethylcyclotetrasiloxane:

Species: Rabbit

Result: No skin irritation

Remarks: On basis of test data.

#### Serious eye damage/eye irritation

Not classified based on available information.

#### **Components:**

#### Methyltrimethoxysilane:

Species: Rabbit

Result: No eye irritation

Remarks: On basis of test data.

#### Octamethylcyclotetrasiloxane:

Species: Rabbit

Result: No eye irritation

Remarks: On basis of test data.

# Respiratory or skin sensitisation

# Skin sensitisation

Not classified based on available information.

# Respiratory sensitisation

Not classified based on available information.

#### **Components:**

#### Methyltrimethoxysilane:

Assessment: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Buehler Test Species: Guinea pig Result: positive

Remarks: On basis of test data.

#### Octamethylcyclotetrasiloxane:

Assessment: Does not cause skin sensitisation.

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

Test Type: Maximisation Test

Species: Guinea pig Result: negative

Remarks: On basis of test data.

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

# Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: On basis of test data.

Test Type: Mutagenicity (in vitro mammalian cytogenetic test)

Result: positive

Remarks: On basis of test data.

Test Type: Chromosome aberration test in vitro

Result: positive

Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Ingestion

Result: negative

Remarks: On basis of test data.

Germ cell mutagenicity- As-

sessment

: Animal testing did not show any mutagenic effects.

#### Octamethylcyclotetrasiloxane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: On basis of test data.

Test Type: Mutagenicity (in vitro mammalian cytogenetic test)

Result: negative

Remarks: On basis of test data.

Test Type: Chromosome aberration test in vitro

Result: negative

Remarks: On basis of test data.

Test Type: In vitro sister chromatid exchange assay in mam-

malian cells Result: negative

Remarks: On basis of test data.

Test Type: DNA damage and repair, unscheduled DNA syn-

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

thesis in mammalian cells (in vitro)

Result: negative

Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (vapour)

Result: negative

Remarks: On basis of test data.

Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: On basis of test data.

Germ cell mutagenicity- As-

sessment

Animal testing did not show any mutagenic effects.

#### Carcinogenicity

Not classified based on available information.

#### Reproductive toxicity

Not classified based on available information.

### **Components:**

#### Methyltrimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on fertility Remarks: On basis of test data.

Effects on foetal develop-

ment

Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat, male and female Application Route: Ingestion

Symptoms: No effects on foetal development

Remarks: On basis of test data.

Reproductive toxicity - As-

sessment

No evidence of adverse effects on sexual function and fertility,

or on development, based on animal experiments.

#### Octamethylcyclotetrasiloxane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat, male and female Application Route: inhalation (vapour) Symptoms: Effects on fertility Remarks: On basis of test data.

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

Effects on foetal develop-

ment

Test Type: Prenatal development toxicity study (teratogenicity)

Species: Rabbit

Application Route: inhalation (vapour)
Symptoms: No effects on foetal development

Remarks: On basis of test data.

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on sexual function and

fertility, based on animal experiments.

# STOT - single exposure

Not classified based on available information.

## STOT - repeated exposure

Not classified based on available information.

#### Components:

### Methyltrimethoxysilane:

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or

less.

Exposure routes: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg

bw or less.

# Octamethylcyclotetrasiloxane:

Exposure routes: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg

bw or less.

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or

less.

Exposure routes: Skin contact

Assessment: No significant health effects observed in animals at concentrations of 200 mg/kg

bw or less.

#### Repeated dose toxicity

#### Components:

#### Methyltrimethoxysilane:

Species: Rat

Application Route: inhalation (vapour) Remarks: On basis of test data.

Species: Rat

Application Route: Ingestion Remarks: On basis of test data.

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

### Octamethylcyclotetrasiloxane:

Species: Rat

Application Route: Ingestion Remarks: On basis of test data.

Species: Rat

Application Route: inhalation (vapour) Remarks: On basis of test data.

Species: Rabbit

Application Route: Skin contact Remarks: On basis of test data.

#### **Aspiration toxicity**

Not classified based on available information.

#### **Further information**

#### Components:

#### Octamethylcyclotetrasiloxane:

Remarks: Results from a 2 year repeated vapour inhalation exposure study to rats of octame-thylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

#### **SECTION 12: Ecological information**

### 12.1 Toxicity

#### Components:

# Methyltrimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 110 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia sp. (water flea)): > 122 mg/l

Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 120

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 100 mg/l

Method: OECD Test Guideline 209

#### Octamethylcyclotetrasiloxane:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): >

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

0.0063 mg/l

Exposure time: 336 h

Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Mysidopsis bahia (opossum shrimp)): > 0.0091 mg/l

Exposure time: 96 h

Remarks: No toxicity at the limit of solubility

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): >

0.022 mg/l

Exposure time: 72 h

Remarks: No toxicity at the limit of solubility

Toxicity to fish (Chronic toxic: :

ity)

NOEC: >= 0.0044 mg/l

Species: Oncorhynchus mykiss (rainbow trout)

Remarks: On basis of test data. No toxicity at the limit of solubility

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: >= 0.0079 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Remarks: On basis of test data.

No toxicity at the limit of solubility

**Ecotoxicology Assessment** 

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

#### 12.2 Persistence and degradability

# **Components:**

#### Octamethylcyclotetrasiloxane:

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 3.7 % Exposure time: 28 d

Method: OECD Test Guideline 310

Stability in water : Degradation half life: 69.3 - 144 h (24.6 °C)

pH: 7

Method: OECD Test Guideline 111

# 12.3 Bioaccumulative potential

#### **Components:**

# Methyltrimethoxysilane:

Partition coefficient: n-

: log Pow: -2.36

octanol/water

# Octamethylcyclotetrasiloxane:

Bioaccumulation : Species: Pimephales promelas (fathead minnow)

Bioconcentration factor (BCF): 12,400

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

Partition coefficient: n-

octanol/water

log Pow: 6.48 (25.1 °C)

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

### **Components:**

#### Octamethylcyclotetrasiloxane:

Assessment : Remarks: Octamethylcyclotetrasiloxane (D4) meets the cur-

rent REACh Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to

living organisms.

#### 12.6 Other adverse effects

No data available

### **SECTION 13: Disposal considerations**

# 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

According to the European Waste Catalogue, Waste Codes

are not product specific, but application specific.

Waste codes should be assigned by the user, preferably in

discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

#### **SECTION 14: Transport information**

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

according to Regulation (EC) No. 1907/2006



# **DOWSIL™ 817 High Modulus Adhesive White**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

Not applicable

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

: Not applicable

Regulation (EC) No 1005/2009 on substances that dep-

lete the ozone layer

Not applicable

Regulation (EC) No 850/2004 on persistent organic pol-

lutants

Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

#### The components of this product are reported in the following inventories:

NZIoC : All ingredients listed or exempt.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from

inventory listing.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the Ca-

nadian Domestic Substances List (DSL).

REACH : For purchases from Dow Chemical EU legal entities, all ingre-

dients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For pur-

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
 Date of first issue: 26.11.2014

chases from non-EU Dow Chemical legal entities with the intention to export into EEA please contact your DC repre-

sentative/local office.

TSCA : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory

exemption.

KECI : All ingredients listed, exempt or notified.

TCSI : All ingredients listed or exempt.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H317 : May cause an allergic skin reaction.
H361f : Suspected of damaging fertility.

H413 : May cause long lasting harmful effects to aquatic life.

#### Full text of other abbreviations

Aquatic Chronic : Chronic aquatic toxicity
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity
Skin Sens. : Skin sensitisation
DCC OEL : Dow Chemical Guide

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

DCC OEL / TWA : Time weighted average

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

US WEEL / TWA : Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways: ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road: AICS - Australian Inventory of Chemical Substances: ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisa-

according to Regulation (EC) No. 1907/2006



# DOWSIL™ 817 High Modulus Adhesive White

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 22.03.2017

 1.15
 07.02.2018
 837107-00016
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tion for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose): MARPOL - International Convention for the Prevention of Pollution from Ships: n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Sources of key data used to compile the Safety Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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