

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : CRACKBOND CSR Part A

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Adhesives Technology Corporation  
450 East Copans Road  
Pompano Beach, Florida 33064  
USA  
T (800) 892-1880 - F (800) 362-3320  
[www.atcepoxy.com](http://www.atcepoxy.com)

#### 1.4. Emergency telephone number

Emergency number : 800-255-3924  
Operating hours 24 hours / 24 hours, 7 days a week

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

|  |      |  |
|--|------|--|
| Acute toxicity (inhalation:dust,mist) Category 4   | H332 | Harmful if inhaled   |
| Skin corrosion/irritation Category 2   | H315 | Causes skin irritation   |
| Serious eye damage/eye irritation Category 2   | H319 | Causes serious eye irritation  |
| Respiratory sensitization, Category 1  | H334 | May cause an allergy or asthma symptoms or breathing difficulties if inhaled |
| Skin sensitization, Category 1   | H317 | May cause an allergic skin reaction  |
| Carcinogenicity Category 2   | H351 | Suspected of causing cancer  |
| Reproductive toxicity Category 2   | H361 | Suspected of damaging fertility or the unborn child                          |
| Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation | H335 | May cause respiratory irritation   |
| Specific target organ toxicity (repeated exposure) Category 2                              | H373 | May cause damage to organs through prolonged or repeated exposure            |
| Hazardous to the aquatic environment – Acute Hazard Category 2                             | H401 | Toxic to aquatic life  |
| Hazardous to the aquatic environment – Chronic Hazard Category 3                           | H412 | Harmful to aquatic life with long lasting effects                            |

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

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|                                   |  |
|-----------------------------------|--|
|                                   | H319 - Causes serious eye irritation   |
|                                   | H332 - Harmful if inhaled  |
|                                   | H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled  |
|                                   | H335 - May cause respiratory irritation  |
|                                   | H351 - Suspected of causing cancer   |
|                                   | H361 - Suspected of damaging fertility or the unborn child   |
|                                   | H373 - May cause damage to organs through prolonged or repeated exposure   |
|                                   | H401 - Toxic to aquatic life   |
|                                   | H412 - Harmful to aquatic life with long lasting effects   |
| Precautionary statements (GHS US) | : P201 - Obtain special instructions before use.   |
|                                   | P202 - Do not handle until all safety precautions have been read and understood.   |
|                                   | P260 - Do not breathe dust/fume/gas/mist/vapors/spray.   |
|                                   | P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  |
|                                   | P264 - Wash hands, forearms and face 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.  |
|                                   | P273 - Avoid release to the environment.   |
|                                   | P280 - Wear protective gloves/protective clothing/eye protection/face protection.  |
|                                   | P284 - [In case of inadequate ventilation] wear respiratory protection.  |
|                                   | P302+P352 - If on skin: Wash with plenty of water.   |
|                                   | P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.   |
|                                   | P304+P341 - If inhaled: If breathing is difficult, 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.                  |
|                                   | P308+P313 - If exposed or concerned: Get medical advice/attention.   |
|                                   | P312 - Call a poison center or doctor if you feel unwell.  |
|                                   | P314 - Get medical advice/attention if you feel unwell.  |
|                                   | P321 - Specific treatment (see supplemental first aid instruction on this label).  |
|                                   | P332+P313 - If skin irritation occurs: Get medical advice/attention.   |
|                                   | 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 or doctor.  |
|                                   | P362+P364 - Take off contaminated clothing and wash it before reuse.   |
|                                   | P363 - Wash contaminated clothing before reuse.  |
|                                   | P403+P233 - Store in a well-ventilated place. Keep container tightly closed.   |
|                                   | P405 - Store locked up.  |
|                                   | P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

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### 3.2. Mixtures

| Name   | Product identifier | %       | GHS US classification  |
|--|--------------------|---------|--|
| diphenylmethanediisocyanate, isomers and homologues                        | CAS-No.: 9016-87-9 | ≥ 30    | Acute Tox. 4 (Inhalation), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>STOT SE 3, H335<br>STOT RE 2, H373  |
| Diphenylmethane 4,4'-diisocyanate  | CAS-No.: 101-68-8  | ≥ 30    | Acute Tox. 4 (Inhalation), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373   |
| TRIMETHYL PENTANYL DIISOBUTYRATE   | CAS-No.: 6846-50-0 | 10 – 60 | Aquatic Acute 2, H401<br>Aquatic Chronic 3, H412   |
| o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate | CAS-No.: 5873-54-1 | 1 – 10  | Acute Tox. 4 (Inhalation), H332<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 |
| 2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate     | CAS-No.: 2536-05-2 | < 5     | Acute Tox. 4 (Inhalation), H332<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.   |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.   |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |

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First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause respiratory irritation. May cause an allergy or asthma symptoms or breathing difficulties if inhaled.  
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.  
Symptoms/effects after eye contact : Eye irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.  
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### CRACKBOND CSR Part A

No additional information available

##### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

No additional information available

##### Diphenylmethane 4,4'-diisocyanate (101-68-8)

###### USA - ACGIH - Occupational Exposure Limits

|                      |                                      |
|----------------------|--------------------------------------|
| Local name           | Methylene bisphenyl isocyanate (MDI) |
| ACGIH OEL TWA [ppm]  | 0.005 ppm                            |
| Remark (ACGIH)       | TLV® Basis: Resp sens                |
| Regulatory reference | ACGIH 2022                           |

###### USA - OSHA - Occupational Exposure Limits

|                                |                                      |
|--------------------------------|--------------------------------------|
| Local name                     | Methylene bisphenyl isocyanate (MDI) |
| OSHA PEL C                     | 0.2 mg/m <sup>3</sup>                |
| OSHA PEL C [ppm]               | 0.02 ppm                             |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1             |

##### TRIMETHYL PENTANYL DIISOBUTYRATE (6846-50-0)

No additional information available

##### o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate (5873-54-1)

No additional information available

##### 2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate (2536-05-2)

No additional information available

#### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

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### 8.3. Individual protection measures/Personal protective equipment

**Hand protection:**

Protective gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

[In case of inadequate ventilation] wear respiratory protection.

**Personal protective equipment symbol(s):**

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |  |
|---|--|
| Physical state                                  | : Liquid   |
| Color   | : dark brown   |
| Odor  | : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.<br>Mixture contains one or more component(s) which have the following odour:<br>Stuffy odour Mild odour Characteristic odour |
| Odor threshold                                  | : No data available  |
| pH  | : No data available  |
| Melting point                                   | : Not applicable   |
| Freezing point                                  | : No data available  |
| Boiling point                                   | : 207.78 °C  |
| Flash point                                     | : 198.89 °C Closed cup   |
| Relative evaporation rate (butyl acetate=1)     | : No data available  |
| Flammability (solid, gas)                       | : Not applicable.  |
| Vapor pressure                                  | : < 0.000013 kPa @77F  |
| Relative vapor density at 20°C                  | : No data available  |
| Relative density                                | : No data available  |
| Solubility                                      | : No data available  |
| Partition coefficient n-octanol/water (Log Pow) | : No data available  |
| Auto-ignition temperature                       | : No data available  |
| Decomposition temperature                       | : No data available  |
| Viscosity, kinematic                            | : No data available  |
| Viscosity, dynamic                              | : No data available  |
| Explosion limits                                | : No data available  |
| Explosive properties                            | : No data available  |
| Oxidizing properties                            | : No data available  |

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Harmful if inhaled.

| CRACKBOND CSR Part A   |   |
|--|---|
| ATE US (dust, mist)  | 1.5 mg/l/4h   |
| diphenylmethanediisocyanate, isomeres and homogues (9016-87-9) |   |
| LD50 oral rat  | > 10000 mg/kg (Rat, Literature study, Oral)                                 |
| LD50 oral  | 10000 mg/kg   |
| LD50 dermal rabbit   | > 5000 mg/kg (Rabbit, Literature study, Dermal)                             |
| LD50 dermal  | 9400 mg/kg  |
| LC50 Inhalation - Rat (Dust/Mist)                              | 0.49 mg/l/4h  |
| LC50 Inhalation - Rat (Vapours)                                | 0.49 mg/l Source: Corporate Solution From Thomson Micromedex                |
| ATE US (oral)  | 10000 mg/kg body weight   |
| ATE US (dermal)  | 9400 mg/kg body weight  |
| ATE US (gases)   | 4500 ppmV/4h  |
| ATE US (vapors)  | 0.49 mg/l/4h  |
| ATE US (dust, mist)  | 0.49 mg/l/4h  |
| Diphenylmethane 4,4'-diisocyanate (101-68-8)                   |   |
| LD50 oral rat  | > 2000 mg/kg body weight (Rat, Male / female, Read-across, Oral, 14 day(s)) |
| LD50 oral  | 31600 mg/kg   |

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| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
|---|---|
| LD50 dermal rabbit  | > 9400 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s)) |
| LC50 Inhalation - Rat (Dust/Mist)   | 0.369 mg/l/4h   |
| ATE US (oral)   | 31600 mg/kg body weight   |
| ATE US (gases)  | 4500 ppmV/4h  |
| ATE US (vapors)   | 11 mg/l/4h  |
| ATE US (dust, mist)   | 0.369 mg/l/4h   |
| <b>o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate (5873-54-1)</b> |   |
| ATE US (gases)  | 4500 ppmV/4h  |
| ATE US (vapors)   | 11 mg/l/4h  |
| ATE US (dust, mist)   | 1.5 mg/l/4h   |
| <b>2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate (2536-05-2)</b>     |   |
| ATE US (gases)  | 4500 ppmV/4h  |
| ATE US (vapors)   | 11 mg/l/4h  |
| ATE US (dust, mist)   | 1.5 mg/l/4h   |
| Skin corrosion/irritation   | : Causes skin irritation.   |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| pH  | No data available in the literature   |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| pH  | 7 (6.8E-3 g/l, 25 °C)   |
| Serious eye damage/irritation   | : Causes serious eye irritation.  |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| pH  | No data available in the literature   |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| pH  | 7 (6.8E-3 g/l, 25 °C)   |
| Respiratory or skin sensitization   | : May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.      |
| Germ cell mutagenicity  | : Not classified  |
| Carcinogenicity   | : Suspected of causing cancer.  |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| IARC group  | 3 - Not classifiable  |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| IARC group  | 3 - Not classifiable  |
| Reproductive toxicity   | : Suspected of damaging fertility or the unborn child.  |
| STOT-single exposure  | : May cause respiratory irritation.   |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| STOT-single exposure  | May cause respiratory irritation.   |



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|---|---|
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| STOT-single exposure  | May cause respiratory irritation.   |
| <b>o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate (5873-54-1)</b> |   |
| STOT-single exposure  | May cause respiratory irritation.   |
| <b>2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate (2536-05-2)</b>     |   |
| STOT-single exposure  | May cause respiratory irritation.   |
| STOT-repeated exposure  | : May cause damage to organs through prolonged or repeated exposure.  |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| STOT-repeated exposure  | May cause damage to organs through prolonged or repeated exposure.  |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| STOT-repeated exposure  | May cause damage to organs through prolonged or repeated exposure.  |
| <b>o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate (5873-54-1)</b> |   |
| STOT-repeated exposure  | May cause damage to organs through prolonged or repeated exposure.  |
| <b>2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate (2536-05-2)</b>     |   |
| STOT-repeated exposure  | May cause damage to organs through prolonged or repeated exposure.  |
| Aspiration hazard   | : Not classified  |
| Viscosity, kinematic  | : No data available   |
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b>                         |   |
| Viscosity, kinematic  | No data available in the literature   |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>   |   |
| Viscosity, kinematic  | Not applicable (solid)  |
| Symptoms/effects after inhalation   | : May cause respiratory irritation. May cause an allergy or asthma symptoms or breathing difficulties if inhaled. |
| Symptoms/effects after skin contact   | : Irritation. May cause an allergic skin reaction.  |
| Symptoms/effects after eye contact  | : Eye irritation.   |

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

|   |  |
|---|--|
| <b>diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)</b> |  |
| LC50 - Other aquatic organisms [1]                                    | > 1000 mg/l (96 h, Literature study)   |
| <b>Diphenylmethane 4,4'-diisocyanate (101-68-8)</b>                   |  |
| LC50 - Fish [1]   | > 1000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Read-across, Nominal concentration)         |
| EC50 - Crustacea [1]  | 129.7 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect) |
| ErC50 algae   | > 1640 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Read-across, GLP)            |

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### 12.2. Persistence and degradability

#### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

Not rapidly degradable

|                               |                                     |
|-------------------------------|-------------------------------------|
| Persistence and degradability | Not readily biodegradable in water. |
|-------------------------------|-------------------------------------|

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

Not rapidly degradable

|                               |                                     |
|-------------------------------|-------------------------------------|
| Persistence and degradability | Not readily biodegradable in water. |
|-------------------------------|-------------------------------------|

### 12.3. Bioaccumulative potential

#### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

|                |  |
|----------------|--|
| BCF - Fish [1] | 268.1 l/kg (BCFBAF v3.01, Estimated value, Fresh weight) |
|----------------|--|

|   |                            |
|---|----------------------------|
| Partition coefficient n-octanol/water (Log Pow) | 10.46 (Calculated, KOWWIN) |
|---|----------------------------|

|                           |  |
|---------------------------|--|
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
|---------------------------|--|

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

|                |  |
|----------------|--|
| BCF - Fish [1] | 92 – 200 (OECD 305: Bioconcentration: Flow-Through Fish Test, 4 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, GLP) |
|----------------|--|

|   |  |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | 4.51 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C) |
|---|--|

|                           |  |
|---------------------------|--|
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |
|---------------------------|--|

### 12.4. Mobility in soil

#### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

|                 |                                     |
|-----------------|-------------------------------------|
| Surface tension | No data available in the literature |
|-----------------|-------------------------------------|

|  |   |
|--|---|
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
|--|---|

|                |                        |
|----------------|------------------------|
| Ecology - soil | Adsorbs into the soil. |
|----------------|------------------------|

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

|                 |                                     |
|-----------------|-------------------------------------|
| Surface tension | No data available in the literature |
|-----------------|-------------------------------------|

|  |   |
|--|---|
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 4.53 – 5.455 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |
|--|---|

|                |                        |
|----------------|------------------------|
| Ecology - soil | Adsorbs into the soil. |
|----------------|------------------------|

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

|               |                  |
|---------------|------------------|
| DOT NA No     | : UN3082         |
| UN-No. (TDG)  | : Not applicable |
| UN-No. (IMDG) | : Not applicable |
| UN-No. (IATA) | : Not applicable |

#### 14.2. UN proper shipping name

|                             |  |
|-----------------------------|--|
| Proper Shipping Name (DOT)  | : Environmentally hazardous substances, liquid, n.o.s. (Diphenylmethane 4,4'-diisocyanate) |
| Proper Shipping Name (TDG)  | : Not applicable   |
| Proper Shipping Name (IMDG) | : Not applicable   |
| Proper Shipping Name (IATA) | : Not applicable   |

#### 14.3. Transport hazard class(es)

##### DOT

|                                  |     |
|----------------------------------|-----|
| Transport hazard class(es) (DOT) | : 9 |
| Hazard labels (DOT)              | : 9 |



##### TDG

|                                  |                  |
|----------------------------------|------------------|
| Transport hazard class(es) (TDG) | : Not applicable |
|----------------------------------|------------------|

##### IMDG

|                                   |                  |
|-----------------------------------|------------------|
| Transport hazard class(es) (IMDG) | : Not applicable |
|-----------------------------------|------------------|

##### IATA

|                                   |                  |
|-----------------------------------|------------------|
| Transport hazard class(es) (IATA) | : Not applicable |
|-----------------------------------|------------------|

#### 14.4. Packing group

|                      |                  |
|----------------------|------------------|
| Packing group (DOT)  | : III            |
| Packing group (TDG)  | : Not applicable |
| Packing group (IMDG) | : Not applicable |
| Packing group (IATA) | : Not applicable |

#### 14.5. Environmental hazards

|                   |   |
|-------------------|---|
| Other information | : No supplementary information available. |
|-------------------|---|

#### 14.6. Special precautions for user

##### DOT

|             |          |
|-------------|----------|
| UN-No.(DOT) | : UN3082 |
|-------------|----------|

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|  |   |
|--|---|
| DOT Special Provisions (49 CFR 172.102)                          | : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.<br>146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.<br>173 - An appropriate generic entry may be used for this material.<br>335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.<br>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).<br>T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)<br>TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.<br>TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP. |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : Reportable quantity 12253.9 lbs / 5563.7 kg [1185.3 gal / 4486.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.   |
| DOT Packaging Non Bulk (49 CFR 173.xxx)                          | : Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5L or ≤5kg.   |
| DOT Packaging Bulk (49 CFR 173.xxx)                              | : 241   |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : No Limit  |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : No Limit  |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.   |

### TDG

Emergency Response Guide (ERG) Number : 171

### IMDG

No data available

### IATA

No data available

## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

|  |                   |          |
|--|-------------------|----------|
| TRIMETHYL PENTANYL DIISOBUTYRATE   | CAS-No. 6846-50-0 | 10 – 60% |
| o-(p-isocyanatobenzyl)phenyl isocyanate, diphenylmethane-2,4'-diisocyanate | CAS-No. 5873-54-1 | 1 – 10%  |
| 2,2'-methylenediphenyl diisocyanate, diphenylmethane-2,2'-diisocyanate     | CAS-No. 2536-05-2 | < 5%     |

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

|  |                   |       |
|--|-------------------|-------|
| diphenylmethanediisocyanate, isomeres and homogues | CAS-No. 9016-87-9 | ≥ 30% |
| Diphenylmethane 4,4'-diisocyanate                  | CAS-No. 101-68-8  | ≥ 30% |

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

Listed on EPA Hazardous Air Pollutant (HAPS)

|           |         |
|-----------|---------|
| CERCLA RQ | 5000 lb |
|-----------|---------|

#### 15.2. International regulations

##### CANADA

#### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

Listed on the Canadian DSL (Domestic Substances List)

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

No additional information available

##### National regulations

#### diphenylmethanediisocyanate, isomeres and homogues (9016-87-9)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### Diphenylmethane 4,4'-diisocyanate (101-68-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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| Component   | State or local regulations  |
|---|---|
| diphenylmethanediisocyanate, isomers and homologues (9016-87-9) | U.S. - New Jersey - Right to Know Hazardous Substance List  |
| Diphenylmethane 4,4'-diisocyanate (101-68-8)                    | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |

### SECTION 16: Other information

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| Full text of H-phrases |  |
|------------------------|--|
| H315                   | Causes skin irritation   |
| H317                   | May cause an allergic skin reaction  |
| H319                   | Causes serious eye irritation  |
| H332                   | Harmful if inhaled   |
| H334                   | May cause an allergy or asthma symptoms or breathing difficulties if inhaled |
| H335                   | May cause respiratory irritation   |
| H351                   | Suspected of causing cancer  |
| H361                   | Suspected of damaging fertility or the unborn child                          |
| H373                   | May cause damage to organs through prolonged or repeated exposure            |
| H401                   | Toxic to aquatic life  |
| H412                   | Harmful to aquatic life with long lasting effects                            |

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : CRACKBOND CSR Part B

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Adhesives Technology Corporation  
450 East Copans Road  
Pompano Beach, Florida 33064  
USA  
T (800) 892-1880 - F (800) 362-3320  
[www.atcepoxy.com](http://www.atcepoxy.com)

#### 1.4. Emergency telephone number

Emergency number : 800-255-3924  
Operating hours 24 hours / 24 hours, 7 days a week

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

|   |      |   |
|---|------|---|
| Serious eye damage/eye irritation Category 2A               | H319 | Causes serious eye irritation                       |
| Reproductive toxicity Category 2                            | H361 | Suspected of damaging fertility or the unborn child |
| Specific target organ toxicity (single exposure) Category 2 | H371 | May cause damage to organs                          |
| Full text of H statements : see section 16                  |      |   |

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H319 - Causes serious eye irritation  
H361 - Suspected of damaging fertility or the unborn child  
H371 - May cause damage to organs

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P311 - If exposed or concerned: Call a poison center or doctor.  
P308+P313 - If exposed or concerned: Get medical advice/attention.

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P337+P313 - If eye irritation persists: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name  | Product identifier | %       | GHS US classification  |
|---|--------------------|---------|--|
| 2,2,4-trimethyl-1,3-pentanediol diisobutyrate | CAS-No.: 6846-50-0 | 10 – 60 | Repr. 2, H361<br>Aquatic Acute 2, H401<br>Aquatic Chronic 2, H411    |
| Ethanol, 2,2'-oxybis-                         | CAS-No.: 111-46-6  | 5 – 30  | Acute Tox. 4 (Inhalation:dust,mist),<br>H332<br>Repr. 2, H361        |
| 1,2-dimethylimidazole                         | CAS-No.: 1739-84-0 | 1 – 10  | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : IF exposed or concerned: Get medical advice/attention.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing.   |
| First-aid measures after skin contact | : Wash skin with plenty of water.  |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion    | : Call a poison center/doctor/physician if you feel unwell.  |

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Eye irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.



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### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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No additional information available

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### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

No additional information available

### Ethanol, 2,2'-oxybis- (111-46-6)

No additional information available

### 1,2-dimethylimidazole (1739-84-0)

No additional information available

## 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

## 8.3. Individual protection measures/Personal protective equipment

### Hand protection:

Protective gloves

### Eye protection:

Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                         |
|---|-------------------------|
| Physical state                                  | : Liquid                |
| Color   | : Black                 |
| Odor  | : slight                |
| Odor threshold                                  | : No data available     |
| pH  | : No data available     |
| Melting point                                   | : Not applicable        |
| Freezing point                                  | : No data available     |
| Boiling point                                   | : No data available     |
| Flash point                                     | : 129.44 °C [Tagliabue] |
| Relative evaporation rate (butyl acetate=1)     | : No data available     |
| Flammability (solid, gas)                       | : Not applicable.       |
| Vapor pressure                                  | : 0.013 kPa @ 25C       |
| Relative vapor density at 20°C                  | : ≤ 1.02                |
| Relative density                                | : 1.015 – 1.02          |
| Solubility                                      | : No data available     |
| Partition coefficient n-octanol/water (Log Pow) | : No data available     |

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|                           |                     |
|---------------------------|---------------------|
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic      | : No data available |
| Viscosity, dynamic        | : No data available |
| Explosion limits          | : No data available |
| Explosive properties      | : No data available |
| Oxidizing properties      | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                             |                  |
|-----------------------------|------------------|
| Acute toxicity (oral)       | : Not classified |
| Acute toxicity (dermal)     | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

#### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

|                                   |   |
|-----------------------------------|---|
| LD50 oral rat                     | > 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity) |
| LD50 oral                         | 3200 mg/kg  |
| LD50 dermal rabbit                | > 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:  |
| LD50 dermal                       | 18900 mg/kg   |
| LC50 Inhalation - Rat (Dust/Mist) | 7.95 mg/l/4h  |
| ATE US (oral)                     | 3200 mg/kg body weight  |
| ATE US (dermal)                   | 18900 mg/kg body weight   |

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| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |   |
|--|---|
| ATE US (dust, mist)  | 7.95 mg/l/4h  |
| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b>                          |   |
| LD50 oral rat  | 16500 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 5 day(s))  |
| LD50 oral  | 15600 mg/kg   |
| LD50 dermal rabbit   | 13300 mg/kg body weight (Rabbit, Experimental value, Dermal, 14 day(s))   |
| LD50 dermal  | 13300 mg/kg   |
| LC50 Inhalation - Rat  | > 4.6 mg/l air (Other, 4 h, Rat, Weight of evidence, Inhalation (aerosol), 14 day(s))   |
| ATE US (oral)  | 15600 mg/kg body weight   |
| ATE US (dermal)  | 13300 mg/kg body weight   |
| ATE US (dust, mist)  | 1.5 mg/l/4h   |
| <b>1,2-dimethylimidazole (1739-84-0)</b>                         |   |
| ATE US (oral)  | 500 mg/kg body weight   |
| Skin corrosion/irritation  | : Not classified  |
| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |   |
| pH   | No data available in the literature   |
| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b>                          |   |
| pH   | 5 – 8 (50 %)  |
| Serious eye damage/irritation                                    | : Causes serious eye irritation.  |
| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |   |
| pH   | No data available in the literature   |
| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b>                          |   |
| pH   | 5 – 8 (50 %)  |
| Respiratory or skin sensitization                                | : Not classified  |
| Germ cell mutagenicity   | : Not classified  |
| Carcinogenicity  | : Not classified  |
| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b>                          |   |
| NOAEL (chronic,oral,animal/male,2 years)                         | 1210 mg/kg body weight Animal: rat, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information)   |
| NOAEL (chronic,oral,animal/female,2 years)                       | 1160 mg/kg body weight Animal: rat, Animal sex: female, Remarks on results: other:Effect type: carcinogenicity (migrated information) |
| Reproductive toxicity  | : Suspected of damaging fertility or the unborn child.  |
| STOT-single exposure   | : May cause damage to organs.   |
| STOT-repeated exposure   | : Not classified  |
| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b>                          |   |
| LOAEL (oral,rat,90 days)   | 40000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)                    |
| Aspiration hazard  | : Not classified  |
| Viscosity, kinematic   | : No data available   |
| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |   |
| Viscosity, kinematic   | No data available in the literature   |

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| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b> |                                     |
|---|-------------------------------------|
| Viscosity, kinematic                    | No data available in the literature |

Symptoms/effects after eye contact : Eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |   |
|--|---|
| LC50 - Fish [1]  | 18 mg/l   |
| EC50 - Crustacea [1]   | > 1.46 mg/l Test organisms (species): Daphnia magna   |
| EC50 72h - Algae [1]   | > 7.49 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| ErC50 algae  | 8 mg/l  |
| LOEC (chronic)   | 1.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'   |
| NOEC (chronic)   | 0.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d'   |
| NOEC chronic crustacea   | 3.2 mg/l  |

| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b> |   |
|---|---|
| LC50 - Fish [1]                         | 75200 mg/l (96 h, Pimephales promelas, Flow-through system, Experimental value, Lethal)   |
| EC50 - Crustacea [1]                    | > 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)                                |
| EC50 96h - Algae [1]                    | 6500 – 13000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| EC50 96h - Algae [2]                    | 9362 mg/l Test organisms (species): other:green algae   |
| NOEC (chronic)                          | ≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'                                       |

### 12.2. Persistence and degradability

| <b>2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)</b> |                                   |
|--|-----------------------------------|
| Not rapidly degradable   |                                   |
| Persistence and degradability                                    | Readily biodegradable in water.   |
| ThOD   | 2.4 g O <sub>2</sub> /g substance |

| <b>Ethanol, 2,2'-oxybis- (111-46-6)</b> |  |
|---|--|
| Not rapidly degradable                  |  |
| Persistence and degradability           | Biodegradable in the soil. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD)         | 0.02 g O <sub>2</sub> /g substance                         |
| Chemical oxygen demand (COD)            | 1.51 g O <sub>2</sub> /g substance                         |
| ThOD                                    | 1.51 g O <sub>2</sub> /g substance                         |

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### 12.3. Bioaccumulative potential

#### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

|   |  |
|---|--|
| BCF - Fish [1]                                  | 5340 (OECD 305: Bioconcentration: Flow-Through Fish Test, 23 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, GLP) |
| Partition coefficient n-octanol/water (Log Pow) | 4.11 Source: OECD Screening Information Data Set   |
| Bioaccumulative potential                       | High potential for bioaccumulation (BCF > 5000).   |

#### Ethanol, 2,2'-oxybis- (111-46-6)

|   |  |
|---|--|
| BCF - Fish [1]                                  | 100 l/kg (3 day(s), Leuciscus melanotus, Static system, Fresh water, Experimental value) |
| Partition coefficient n-octanol/water (Log Pow) | -1.98 (Calculated)   |
| Bioaccumulative potential                       | Low potential for bioaccumulation (BCF < 500).   |

### 12.4. Mobility in soil

#### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

|  |  |
|--|--|
| Surface tension  | 27.8 mN/m (22 °C, 100 vol %, EU Method A.5: Surface tension) |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 3.6 (log Koc, QSAR)  |
| Ecology - soil   | Low potential for mobility in soil.                          |

#### Ethanol, 2,2'-oxybis- (111-46-6)

|  |                                      |
|--|--------------------------------------|
| Surface tension  | 48.5 mN/m                            |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0 (log Koc, SRC PCKOCWIN v2.0, QSAR) |
| Ecology - soil   | Highly mobile in soil.               |

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable

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### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : Not applicable

#### TDG

Transport hazard class(es) (TDG) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

|                       |                   |         |
|-----------------------|-------------------|---------|
| 1,2-dimethylimidazole | CAS-No. 1739-84-0 | 1 – 10% |
|-----------------------|-------------------|---------|

### 15.2. International regulations

#### CANADA

#### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

Listed on the Canadian DSL (Domestic Substances List)

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### Ethanol, 2,2'-oxybis- (111-46-6)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

### 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (6846-50-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Ethanol, 2,2'-oxybis- (111-46-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

| Component                       | State or local regulations                     |
|---------------------------------|--|
| Ethanol, 2,2'-oxybis-(111-46-6) | U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Full text of H-phrases

|      |   |
|------|---|
| H302 | Harmful if swallowed                                |
| H315 | Causes skin irritation                              |
| H318 | Causes serious eye damage                           |
| H319 | Causes serious eye irritation                       |
| H332 | Harmful if inhaled                                  |
| H361 | Suspected of damaging fertility or the unborn child |
| H371 | May cause damage to organs                          |
| H401 | Toxic to aquatic life                               |
| H411 | Toxic to aquatic life with long lasting effects     |

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.