

## Safety Data Sheet

according to 1907/2006/EC, Article 31

Date of creation: 26.05.2015

Version: 1.0

Ralmont GmbH

92361 Berggau

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### RALMO<sup>®</sup>-Foil Adhesive

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

**1.1 Product identifier**

Trade name: RALMO<sup>®</sup>-Foil Adhesive  
 Registration number REACH: Not applicable (Mixture)  
 Product type REACH: Mixture

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

**1.2.1 Relevant identified uses:**

Sealing putty

**1.2.2 Uses advised against:**

No known uses advised against.

**1.3 Details of the supplier providing the safety data sheet**

Company name: Ralmont GmbH  
 Street: Keltenring 16  
 Place: D-92361 Berggau  
 Phone: +49 (0)9181/516 40-20  
 E-Mail: info@ralmont.de - Contact person: Mr. Niklas Weber  
 Internet: http://www.ralmont.de

**1.4 Emergency numbers:** Bonn Poison Control Center, 24 hours a day, Tel. +49(0)228-19240

#### SECTION 2: Possible hazards

**2.1 Classification of the substance or mixture:**

**2.1.1 Classification according to Regulation EC No 1272/2008.**

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008.

**2.1.2 Classification according to Directive 67/548/EEC-1999/45/EC**

Not classified as dangerous according to the criteria of Directive(s) 67/548/EEC and/or 1999/45/EC.

**2.2 Label elements:**

**Labeling according to Regulation EC No. 1272/2008 (CLP).**

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008.

**Labelling according to Directive 67/548/EEC-1999/45/EC (DSD/DPD)**

Not classified as dangerous according to Directive 67/548/EEC and/or Directive 1999/45/EC.

**2.3 Other hazards:**

CLP: No other hazards known.

DSD/DPD: No other hazards known.

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

**3.1 Substances:**

Not applicable

**3.2 Mixtures:**

| Name<br>REACH Registration no. | CAS-No. EG-<br>No. | Conc. (C) | Classification acc.<br>DSD/DPD | Classification acc.<br>CLP | Footnote   | Comment   |
|--------------------------------|--------------------|-----------|--------------------------------|----------------------------|------------|-----------|
| 3-(Trimethoxysilyl)propylamin  | 13822-56-5         | 0.1%<C<2% | Xi; R38 - 41                   | Skin Irrit. 2; H315        | (1)(10)    | Component |
| 01-2119510159-45               | 237-511-5          |           |                                | Eye Dam. 1; H318           |            |           |
| Diocetyl tin oxide             | 870-08-6           | 0.1%<C<1% | T; R48/25                      | Repr. 2; H361fd            | (1)(2)(10) | Component |
| 01-2119971268-27               | 212-791-1          |           |                                | STOT RE 1; H372            |            |           |

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- (1) For full text of R- and H-phrases: see point 16.  
(2) Substance subject to a Community occupational exposure limit value.  
(10) Subject to the restrictions in Annex XVII of Regulation (EC) No 1907/2006.

### SECTION 4: First aid measures

#### 4.1 Descriptions of first aid measures:

##### General measures:

If you feel unwell, call a doctor.

##### After inhalation:

Remove victim to fresh air. Breathing difficulties: Consult physician/medical service.

##### After skin contact:

Flush with water. Use of soap is permitted. If irritation persists, consult a physician.

##### After eye contact:

Rinse with water. Consult an ophthalmologist if irritation persists.

##### After ingestion:

Rinse mouth with water. As soon as possible after ingestion: make the patient drink plenty of water. Do not induce vomiting.  
In case of indisposition: Consult doctor/medical service.

#### 4.2 Most important symptoms and effects, both acute and delayed:

##### 4.2.1 Acute symptoms:

##### After inhalation:

No effects known.

##### After skin contact:

No effects known.

##### After eye contact:

No effects known.

##### After ingestion:

No effects known.

##### 4.2.2 Delayed symptoms:

No effects known.

#### 4.3 Indication of any immediate medical attention or special treatment needed:

If applicable and available, indicated below.

### SECTION 5: Fire Fighting Measures

#### 5.1 Extinguishing media:

##### 5.1.1 Suitable extinguishing media:

Adapt extinguishing media to environment.

##### 5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

#### 5.2 Special hazards arising from the substance or mixture:

In case of fire: Formation of toxic and corrosive gases/vapors (phosphorus oxide, hydrogen chloride, carbon monoxide; carbon dioxide).

#### 5.3 Advice for firefighters:

##### 5.3.1 Measures:

Dilute toxic gases with water mist. Expect toxic/corrosive precipitation water.

##### 5.3.2 Special protective equipment for fire fighting:

Gloves. Protective suit. In case of heating/combustion: Compressed air/oxygen equipment.

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### SECTION 6: Accidental release measures

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

No open fire.

##### 6.1.1 Protective equipment for personnel not trained for emergencies:

See item 8.2

##### 6.1.2 Protective equipment for emergency personnel:

Gloves. Protective suit.

##### Appropriate protective clothing:

See item 8.2

#### 6.2 Environmental precautions:

Collect released product. Avoid environmental contamination by suitable containment.

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

Collect solids in sealable containers. Clean contaminated surfaces with soap solution.

Clean clothing and equipment after work.

#### 6.4 References to other sections:

See item 13.

### SECTION 7: Handling and Storage

The information contained in this section is a general description. If applicable and available, the exposure scenarios are included in the appendix. You must always use exposure scenarios appropriate to their identified uses.

#### 7.1 Precautions for safe handling:

Keep away from open flames/heat sources. Follow normal hygiene practices. Keep container tightly closed.

#### 7.2 Conditions for safe storage, taking into account incompatibilities:

##### 7.2.1 Conditions for safe storage:

Store at room temperature. Comply with the legal requirements. Max. Storage time: 1 year.

##### 7.2.2 Keep away from:

Heat sources

##### 7.2.3 Suitable packaging material:

Polyethylene

##### 7.2.4 Unsuitable packaging material:

No data available

#### 7.3 Specific end uses:

If applicable and available, exposure scenarios in the Annex. Follow manufacturer's instructions.

### SECTION 8: Exposure controls/personal protective equipment

#### 8.1 Parameters to be monitored:

##### 8.1.1 Occupational exposure:

(a) Occupational Exposure Limits.

Limit values are listed below where available and applicable.

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| <b>The Netherlands</b>                                  |   |                        |
|---|---|------------------------|
| Tin compounds (organic)(as Sn                           | Time-weighted average exposure limit 8 h (Private workplace exposure limit)     | 0.1 mg/m <sup>3</sup>  |
|   | Short-term value (private workplace exposure limit)                             | 0.2 mg/m <sup>3</sup>  |
| <b>Belgium</b>  |   |                        |
| Tin (organic compounds of) (as Sn)                      | Time-weighted average exposure limit 8 h  | 0.1 mg/m <sup>3</sup>  |
|   | Short-term value  | 0.2 mg/m <sup>3</sup>  |
| <b>USA (TLV-ACGIH)</b>                                  |   |                        |
| Tin organic compounds, as Sn                            | Time-weighted average exposure limit 8 h (TLV - Adopted Value)                  | 0.1 mg/m <sup>3</sup>  |
|   | Short-term value (TLV - Adopted Value)  | 0.2 mg/m <sup>3</sup>  |
| <b>Germany</b>  |   |                        |
|   | Time-weighted average exposure limit 8 h (TRGS900)                              | 0.002 ppm              |
| Di-n-octyltin compounds                                 | Time-weighted average exposure limit 8 h (TRGS900)                              | 0.01 mg/m <sup>3</sup> |
| <b>France</b>   |   |                        |
| Tin (organic compounds of) (as Sn)                      | Time-weighted average exposure limit 8 h (VL: Non-regulatory indicative value)  | 0.1 mg/m <sup>3</sup>  |
|   | Short-term value (VL: Non-regulatory indicative value)                          | 0.2 mg/m <sup>3</sup>  |
| <b>UK</b>   |   |                        |
| Tin compounds, organic, except Cyhexatin (ISO), (as Sn) | Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005)) | 0.1 mg/m <sup>3</sup>  |
|   | Short-term value (Workplace exposure limit (EH40/2005))                         | 0.2 mg/m <sup>3</sup>  |

b) National biological limits

The limits are listed below where available and applicable.

### 8.1.2 Sampling Procedure:

When applicable and available, indicated below.

|  |       |      |
|--|-------|------|
| Tin (Organic Cpds) (as Sn) (Organotin Compounds) | NIOSH | 5504 |
|--|-------|------|

### 8.1.3 Applicable limits in the intended use:

Limit values are listed below where available and applicable.

### 8.1.4 DNEL/PNEC Values:

#### DNEL - Employee

3-(Trimethoxysilyl)propylamin

| Threshold (DNEL/DMEL) | Type                                   | Value                | Comment |
|-----------------------|--|----------------------|---------|
| DNEL                  | Systemic long-term effects, inhalation | 58 mg/m <sup>3</sup> |         |
|                       | Systemic long-term effects, dermal     | 8.3 mg/kg bw/Day     |         |

Dioctyltin oxide

| Threshold (DNEL/DMEL)       | Type                                   | Value                   | Comment |
|-----------------------------|--|-------------------------|---------|
| DNEL                        | Systemic long-term effects, inhalation | 0.004 mg/m <sup>3</sup> |         |
|                             | Systemic long-term effects, dermal     | 0.05 mg/kg bw/Day       |         |
| DNEL - Allgemeinbevölkerung |  |                         |         |

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3-(Trimethoxysilyl)propylamin

| Threshold (DNEL/DMEL) | Type                                   | Value                | Comment |
|-----------------------|--|----------------------|---------|
| DNEL                  | Systemic long-term effects, inhalation | 17 mg/m <sup>3</sup> |         |
|                       | Systemic long-term effects, dermal     | 5 mg/kg bw/day       |         |
|                       | Systemic long-term effects, oral       | 5 mg/kg bw/day       |         |

Dioctyltin oxide

| Threshold (DNEL/DMEL) | Type                                   | Value                    | Comment |
|-----------------------|--|--------------------------|---------|
| DNEL                  | Systemic long-term effects, inhalation | 0.0009 mg/m <sup>3</sup> |         |
|                       | Systemic long-term effects, dermal     | 0.025 mg/kg bw/day       |         |
|                       | Systemic long-term effects, oral       | 0.0005 mg/kg bw/day      |         |

| PNEC                          |                        |         |
|-------------------------------|------------------------|---------|
| 3-(Trimethoxysilyl)propylamin |                        |         |
| Medium                        | Value                  | Comment |
| Freshwater                    | 0.33 mg/l              |         |
| Seawater                      | 0.033 mg/l             |         |
| Water (intermittent release)  | 3.3 mg/l               |         |
| STP                           | 13 mg/l                |         |
| Freshwatersediment            | 1.2 mg/kg sediment dw  |         |
| Seawatersediment              | 0.12 mg/kg sediment dw |         |
| Soil                          | 0.045 mg/kg soil dw    |         |
| Oral                          | 44.4 mg/kg food        |         |

Dioctyltin oxide

| Medium                       | Value                      | Comment |
|------------------------------|----------------------------|---------|
| Freshwater                   | 0.0018 µg/l                |         |
| Meerwasser                   | 0.00018 µg/l               |         |
| Water (intermittent release) | 0.018 µg/l                 |         |
| STP                          | 100 mg/l                   |         |
| Freshwatersediment           | 0.02798 mg/kg sediment dw  |         |
| Seawatersediment             | 0.002798 mg/kg sediment dw |         |
| Soil                         | 0.005593 mg/kg soil dw     |         |
| Oral                         | 0.02 mg/kg food            |         |

### 8.1.5 Control banding:

When applicable and available, indicated below.

### 8.2 Exposure controls:

The information contained in this section is a general description. If applicable and available, the exposure scenarios are included in the appendix. You must always use exposure scenarios appropriate to your identified uses.

#### 8.2.1 Appropriate engineering controls:

Keep away from open flames/heat sources.

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### 8.2.2 Individual protective measures, for example personal protective equipment:

Follow usual hygiene. Keep containers well closed. Do not eat, drink or smoke while working.

- a) Respiratory protection: Respiratory protection not required for normal handling.
- b) Hand protection: Gloves.
- c) Eye protection: Eye protection not required for normal handling.
- d) Skin protection: Protective clothing.

### 8.2.3 Environmental exposure controls:

See Sections 6.2, 6.3 and 13.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                            |   |
|----------------------------|---|
| Appearance                 | Paste   |
| Odor                       | Characteristic odour                                    |
| Odor threshold             | No data available                                       |
| Color                      | Product color is composition dependent                  |
| Particle size              | No data available                                       |
| Explosion limits           | No data available                                       |
| Flammability               | Non flammable   |
| Log Kow                    | Not applicable (mixture)                                |
| Dynamic viscosity          | No data available                                       |
| Kinematic viscosity        | No data available                                       |
| Melting point              | No data available                                       |
| Boiling point              | No data available                                       |
| Flash Point                | Not required: Exemption according to REACH              |
| Evaporation rate           | No data available                                       |
| Relative Vapor Density     | No data available                                       |
| Vapor Pressure             | No data available                                       |
| Solubility                 | No data available                                       |
| Relative density:          | 1.6 ; 20 °C   |
| Decomposition Temperature: | No data available                                       |
| Auto-ignition temperature: | No data available                                       |
| Explosive properties:      | No chemical group associated with explosive properties. |
| Oxidizing Properties:      | No chemical group associated with oxidizing properties. |
| pH:                        | No data available                                       |

### 9.2 Other information

Absolute density: 1600 kg/m<sup>3</sup> ; 20 °C

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity:

When heated: increased fire hazard.

### 10.2 Chemical stability:

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions:

No data available.

### 10.4 Conditions to avoid:

Keep away from open flames/heat sources.

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### 10.5 Incompatible materials:

No data available.

### 10.6 Hazardous decomposition products:

 In case of fire: Formation of toxic and corrosive gases/vapours (phosphorus oxide, hydrogen chloride, carbon monoxide, CO<sup>2</sup>).

## SECTION 11: Toxicological information.

### 11.1 Information on toxicological effects:

#### 11.1.1 Test Results:

##### Acute toxicity:

 RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Exposure route      | Parameter | Method                   | Value          | Exposure time | Species       | Value determination | Comment |
|---------------------|-----------|--------------------------|----------------|---------------|---------------|---------------------|---------|
| Oral                | LD50      | Equivalent with OECD 401 | 2.970 ml/kg bw |               | Rat (male)    | Experimental Value  |         |
| Dermal              | LD50      | Equivalent with OECD 402 | 11.3 ml/kg bw  | 24 Hrs.       | Rabbit (male) | Experimental Value  |         |
| Inhalation (vapors) | LD50      | OECD 403                 | > 5 ppm        | 6 Hrs.        | Rat (male)    | Read-across         |         |
| Inhalation (vapors) | LD50      | OECD 403                 | > 16 ppm       | 6 Hrs.        | Rat (female)  | Read-across         |         |

Dioctyltin oxide

| Exposure route | Parameter | Method                   | Value           | Exposure time | Species           | Value determination | Comment |
|----------------|-----------|--------------------------|-----------------|---------------|-------------------|---------------------|---------|
| Oral           | LD50      | Equivalent with OECD 401 | > 6000 mg/kg    |               | Rat (male/female) | Experimental-Value  |         |
| Dermal         | LD50      | OECD 402                 | > 2000 mg/kg bw | 24 Hrs.       | Rat (male/female) | Experimental-Value  |         |
| Inhalation     |           |                          |                 |               |                   | Data waiver         |         |

Assessment is based on the relevant components.

#### Conclusion:

Not classified for acute toxicity.

#### Corrosive/irritant effect:

 RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Exposure route | Result            | Method                   | Exposure time | Time                     | Species | Value determination | Comment |
|----------------|-------------------|--------------------------|---------------|--------------------------|---------|---------------------|---------|
| Eye            | Severe eye damage | Equivalent with OECD 405 |               | 24; 48; 72 Hours         | Rabbit  | Read-across         |         |
| Skin           | Irritant effect   | OECD 404                 | 3 min-4 Hrs.  | 1; 24; 48; 72; 168 Hours | Rat     | Calculation value   |         |

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Dioctyltin oxide

| Exposure route                 | Result             | Method   | Exposure time | Time             | Species                       | Value determination | Comment |
|--------------------------------|--------------------|----------|---------------|------------------|-------------------------------|---------------------|---------|
| Eye                            | No irritant effect | OECD 405 |               | 24; 48; 72 Hours | Rabbit                        | Experimental-Value  |         |
| Not applicable (in vitro test) | No irritant effect | OECD 439 | 15 Min.       |                  | Reconstructed human epidermis | Experimental-Value  |         |

Assessment is based on the relevant components.

**Conclusion:**

Not classified as irritant to skin.

Not classified as irritating to eyes.

Not classified as irritant to the respiratory system.

**Respiratory/skin sensitization:**

RALMO®-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Exposure route | Result          | Method   | Exposure time | Observation time | Species                   | Value determination | Comment |
|----------------|-----------------|----------|---------------|------------------|---------------------------|---------------------|---------|
| Skin           | Not sensitizing | OECD 406 | 72 Hrs.       | 24; 48 Hours     | Guinea Pig (male/ female) | Experimental-Value  |         |

Dioctyltin oxide

| Exposure route | Result          | Method   | Exposure time | Observation time | Species        | Value determination | Comment |
|----------------|-----------------|----------|---------------|------------------|----------------|---------------------|---------|
| Skin           | Not sensitizing | OECD 429 |               |                  | Mouse (female) | Experimental-Value  |         |

Assessment is based on the relevant components.

**Conclusion:**

Not classified as sensitizing to skin.

Not classified as sensitizing by inhalation.

**Specific target organ toxicity:**

RALMO®-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylami

| Exposure route | Parameter | Method   | Value            | Organ | Effect  | Exposure time | Species            | Value determination |
|----------------|-----------|----------|------------------|-------|---|---------------|--------------------|---------------------|
| Oral (gavage)  | LOAEL     | OECD 408 | 600 mg/kg bw/day | Liver | Clinical signs; mortality, body weight; food consumption. | 92 day(s)     | Rat (male/ female) | Read-across         |

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|                      |                        |                          |                           |       |  |                                   |                   |             |
|----------------------|------------------------|--------------------------|---------------------------|-------|--|-----------------------------------|-------------------|-------------|
| Oral (gavage)        | NOAEL                  | OECD 408                 | 200 mg/kg bw/day          | Liver | No effect                                | 92 day(s)                         | Rat (male/female) | Read-across |
| Inhalation (Aerosol) | Inhalation hazard test | Equivalent with OECD 412 | 147 mg/m <sup>3</sup> air | Lungs | Lesions in the larynx, trachea and lungs | 4 weeks (6 Hrs./day, 5 days/week) | Rat (male)        | Read-across |

### Diocetyl tin oxide

| Exposure route | Parameter | Method   | Value                               | Organ  | Effect       | Exposure time | Species           | Value determination |
|----------------|-----------|----------|-------------------------------------|--------|--------------|---------------|-------------------|---------------------|
| Oral (diet)    | NOAEL     | OECD 422 | 0.3 mg/kg bw/day - 0.5 mg/kg bw/Day | Thymus | Organ damage | 28 day(s)     | Rat (male/female) | Experimental-Value  |
| Dermal         |           |          |                                     |        |              |               |                   | Data waiver         |
| Inhalation     |           |          |                                     |        |              |               |                   | Data waiver         |

Assessment is based on the relevant components.

### Conclusion:

Not classified for subchronic toxicity.

### Germ cell mutagenicity (in vitro):

 RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Result  | Method   | Test substrate                    | Effect    | Value determination |
|---|----------|-----------------------------------|-----------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | OECD 476 | Chinese hamster ovaries           | No effect | Read-across         |
| Negative with metabolic activation, negative without metabolic activation | OECD 473 | Chinese hamster lung fibroblasts. | No effect | Read-across         |
| Negative with metabolic activation, negative without metabolic activation | OECD 471 | Escherichia coli                  | No effect | Experimental value  |
| Negative with metabolic activation, negative without metabolic activation | OECD 471 | Bacteria (S.typhimurium)          | No effect | Experimental value  |

### Diocetyl tin oxide

| Result  | Method   | Test substrate                | Effect    | Value determination |
|---|----------|-------------------------------|-----------|---------------------|
| Negative with metabolic activation, negative without metabolic activation | OECD 476 | Mouse (Lymphoma cells L5178Y) | No effect | Experimental value  |
| Negative with metabolic activation, negative without metabolic activation | OECD 471 | Bacteria (S.typhimurium)      | No effect | Experimental value  |

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**Germ cell mutagenicity (in vivo):**

RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Result   | Method                   | Exposure time | Test substrate      | Organ       | Value determination |
|----------|--------------------------|---------------|---------------------|-------------|---------------------|
| Negative | Equivalent with OECD 474 |               | Mouse (male/female) | Bone marrow | Read-across         |

Diocetyl tin oxide

| Result   | Method   | Exposure time | Test substrate | Organ       | Value determination |
|----------|----------|---------------|----------------|-------------|---------------------|
| Negative | OECD 474 |               | Mouse (male)   | Bone marrow | Experimental value  |

**Carcinogenicity:**

RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

| Exposure route | Parameter | Method                 | Value        | Exposure time         | Species             | Value determination             | Organ | Effect                   |
|----------------|-----------|------------------------|--------------|-----------------------|---------------------|---------------------------------|-------|--------------------------|
| Dermal         | NOAEL     | Not further determined | 43.8 mg/Week | 104 Weeks (3Mal/Week) | Mouse (male/female) | Inconclusive, insufficient data | Skin  | None Carcinogenic Effect |

**Reproductive toxicity:**

RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available for the mixture.

3-(Trimethoxysilyl)propylamin

|                        | Parameter | Method           | Value            | Exposure time              | Species           | Effect   | Organ    | Value determination |
|------------------------|-----------|------------------|------------------|----------------------------|-------------------|--|----------|---------------------|
| Developmental toxicity | NOAEL     | EPA OTS 798.4900 | 100 mg/kg bw/Day | 14 days (Pregnancy, daily) | Rat               | No effect  |          | Read-across         |
|                        | LOAEL     | EPA OTS 798.4900 | 600 mg/kg bw/Day | 14 days (Pregnancy, daily) | Rat               | Minor skeletal changes                                       | Skeleton | Read-across         |
| Maternal toxicity      | NOAEL     | Other            | 600 mg/kg bw/Day | 14 day(s)                  | Rat               | No effect  |          | Read-across         |
|                        | LOAEL     | Other            | 100 mg/kg bw/Day | 14 day(s)                  | Rat               | Clinical symptoms; mortality, body weight; food consumption. | General  | Read-across         |
| Effects on fertility   | NOAEL     | OECD 408         | 600 mg/kg bw/Day | 92 day(s)                  | Rat (male/female) |  |          | Read-across         |

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Dioctyltin oxide

|                        | Parameter | Method   | Value                                  | Exposure time | Species           | Effect              | Organ | Value determination |
|------------------------|-----------|----------|--|---------------|-------------------|---------------------|-------|---------------------|
| Developmental toxicity | NOAEL     | OECD 422 | 0.3 mg/kg bw/Day -<br>0.5 mg/kg bw/Day | 28 day(s)     | Rat (male/female) | No effect           |       | Experimental value  |
| Effects on fertility   | NOAEL (P) | OECD 422 | 0.3 mg/kg bw/Day -<br>0.5 mg/kg bw/Day | 28 day(s)     | Rat (male/female) | Reproductive output |       | Experimental value  |

Assessment is based on the relevant components.

**Conclusion CMR:**

Not classified for carcinogenicity.

Not classified for mutagenic toxicity or genotoxicity.

Not classified for reproductive or developmental toxicity.

**Chronic effects after short or long term exposure:**

 RALMO<sup>®</sup>-Foil Adhesive

No effects known.

### SECTION 12: Environmental information

**12.1 Toxicity:**

 RALMO<sup>®</sup>-Foil Adhesive

No (experimental) data available on the mixture.

3-(Trimethoxysilyl)propylamin

|   | Parameter | Method        | Value       | Duration  | Species                 | Test plan         | Fresh-/Sea-water | Value determination |
|---|-----------|---------------|-------------|-----------|-------------------------|-------------------|------------------|---------------------|
| Acute toxicity fish                     | LC50      | OECD 203      | > 934 mg/l  | 96 Hrs.   | Danio rerio             | Semistatic system | Freshwater       | Read-across; GLP    |
| Acute toxicity Invertebrates            | EC50      | OECD 202      | 331 mg/l    | 48 Hrs.   | Daphnia magna           | Static system     | Freshwater       | Read-across; GLP    |
| Toxicity Algae and other aquatic plants | EC50      | EU Method C.3 | > 1000 mg/l | 72 Hrs.   | Desmodesmus subspicatus | Static system     | Freshwater       | Read-across; GLP    |
| Toxicity aquatic micro-organisms        | EC50      | Other         | 43 mg/l     | 5.75 Hrs. | Pseudomonas putida      | Static system     | Freshwater       | Read-across; GLP    |

Assessment based on relevant ingredients.

**Conclusion:**

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

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### 12.2 Persistence and degradability:

3-(Trimethoxysilyl)propylamin

Biodegradability in water.

| Method        | Value     | Duration  | Value determination |
|---------------|-----------|-----------|---------------------|
| EU Method C.4 | 67 %; GLP | 28 day(s) | Experimental value  |

 Half-life water (t<sub>1/2</sub> water)

| Method | Value         | Duration            | Value determination |
|--------|---------------|---------------------|---------------------|
|        | 4 Hrs; pH = 7 | Primary degradation | QSAR                |

#### Conclusion:

Contains component(s) that are not readily biodegradable.

### 12.3 Bioaccumulative potential:

 RALMO<sup>®</sup>-Foil Adhesive

Log Kow

| Method | Comment                  | Value | Temperature | Value determination |
|--------|--------------------------|-------|-------------|---------------------|
|        | Not applicable (mixture) |       |             |                     |

3-(Trimethoxysilyl)propylamin

Log Kow

| Method | Comment | Value | Temperature | Value determination |
|--------|---------|-------|-------------|---------------------|
|        |         | 0.2   | 20 °C       | QSAR                |

Dioctyltin oxide

Log Kow

| Method | Comment | Value | Temperature | Value determination |
|--------|---------|-------|-------------|---------------------|
|        |         | 9.26  |             | Estimated value     |

#### Conclusion:

Contains bioaccumulative component(s).

### 12.4 Mobility in soil:

No (experimental) data available on the mobility of the components.

### 12.5 Results of PBT and vPvB assessment:

Does not contain components meeting the PBT and/or vPvB criteria in Annex XIII of Regulation (EC) No 1907/2006.

### 12.6 Other adverse effects:

 RALMO<sup>®</sup>-Foil Adhesive

#### Global Warming Potential (GWP)

None of the known components are included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014).

#### Ozone depletion potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). 3-(Trimethoxysilyl)propylamine

#### Global Warming Potential (GWP)

Not listed in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014).

#### Groundwater:

Hazardous to groundwater

Dioctyltin oxide

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### Global Warming Potential (GWP)

Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014).

## SECTION 13: Disposal information:

The information contained in this section is a general description. If applicable and available, the exposure scenarios are included in the annex. You must always use exposure scenarios appropriate to the subject of your identified uses.

### 13.1 Waste treatment procedures:

#### 13.1.1 Waste regulations:

Waste code (Directive 2008/98/EC, Decision 2000/0532/EC).

08 04 10 (Waste from MFSU of adhesives and sealants (including water-repellent materials):

Waste adhesives and sealants other than those mentioned in 08 04 09).

May be considered as non-hazardous waste according to Directive 2008/98/EC.

#### 13.1.2 Disposal instructions:

Dispose of waste in accordance with local and/or national regulations.

Dispose of to authorised waste disposal contractor. Do not discharge into drains or the environment.

#### 13.1.3 Packaging:

Waste code Container (Directive 2008/98/EC). 15 01 02 (plastic packaging).

#### 13.1.4 Disposal of contaminated containers:

Empty container completely.

Hand over to approved disposal company.

Recommended cleaning: Cleaning by recycler or specialised company.

## SECTION 14: Transport information

### Road (ADR)

#### 14.1 UN number

Transport: Not specified

#### 14.2 Proper UN Shipping Name

#### 14.3 Transport hazard classes

Number identifying the hazard:

Class:

Classification Code:

#### 14.4 Packing group

Packing group:

Hazard label:

#### 14.5 Environmental hazards

Environmentally hazardous substances label: No

#### 14.6 Special precautions for the user:

**Special precautions:**

Limited quantities:

### Railroad (RID)

#### 14.1 UN number

Transport: Not specified

#### 14.2 Proper UN Shipping Name

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**14.3 Transport hazard classes**

Number identifying the hazard:  
Class:  
Classification Code:

**14.4 Packing group**

Hazard label:

**14.5 Environmental hazards**

Environmentally hazardous substances label: No

**14.6 Special precautions for the user**

**Special precautions:**  
Limited quantities:

**Inland waterways (ADN)**

**14.1 UN number**

Transport: Not specified

**14.2 Proper UN Shipping Name**

**14.3 Transport hazard classes**

Class:  
Classification Code:

**14.4 Packing group**

Packing group:  
Hazard label:

**14.5 Environmental hazards**

Environmentally hazardous substances label: No

**14.6 Special precautions for the user**

**Special precautions:**  
Limited quantities:

**Sea (IMDG/IMSBC)**

**14.1 UN number**

Transport: Not specified

**14.2 UN proper shipping name**

**14.3 Transport hazard classes**

Class:

**14.4 Packing group**

Packing group:  
Hazard label:

**14.5 Environmental hazards**

Marine pollutant -  
Environmentally hazardous substance label: No

**14.6 Special precautions for user**

Special precautions:  
Limited quantities:

**14.7 Transport in bulk according to Annex II of MARPOL and according to the IBC Code:**

Annex II of MARPOL 73/78

**Air (ICAO-TI/IATA-DGR)**

**14.1 UN number**

Transport: Not subject to

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**14.2 UN proper shipping name**

**14.3 Transportgefahrenklassen:**

Class:

**14.4 Packing group**

Packing group:

Hazard label:

**14.5 Environmental hazards**

Environmentally hazardous substances label: No

**14.6 Special precautions for the user**

Special precautions:

Passenger and cargo aircraft:

Limited quantities: Maximum total quantity allowed per package

### SECTION 15: Legislation

**15.1 Safety, health and environmental regulations/specific legislation for the substance or Mixture:**

European legislation:

REACH Annex XVII - Restriction.

Contains component(s) subject to the restrictions in Annex XVII of Regulation (EC) No 1907/2006:

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

3-(Trimethoxysilyl)propylamin

Liquid substances or mixtures which are considered dangerous according to Directive 1999/45/EC or which meet the criteria for one of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 set out in Annex I to Regulation (EC) No 1272/2008:

- (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;
- (b) hazard classes 3.1 to 3.6, 3.7 impairment of sexual function and fertility and development, 3.8 excluding narcotic effects, 3.9 and 3.10;
- (c) hazard class 4.1;
- (d) hazard class 5.1.

1. Shall not be used

- in decorative articles intended to produce light or colour effects (by phase change), e.g. in mood lamps and ashtrays;
- in joke games;
- in games for one or more participants or in products intended to be used as such, including for decoration.

2. Products which do not comply with paragraph (1) shall not be placed on the market.

3. Shall not be placed on the market if they contain a colouring agent other than for fiscal reasons and/or a perfume, provided that

- they may be used as fuel in decorative oil lamps intended for supply to the general public, and
- their aspiration is classified as hazardous and they are labelled R65 or H304.

4. Decorative oil lamps intended for supply to the general public shall not be placed on the market unless they comply with the European standard for decorative oil lamps (EN14059) adopted by the European Committee for Standardisation (CEN).

5. Without prejudice to the implementation of other Community provisions on the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure that the following requirements are met before placing them on the market:

- a) Lamp oils labelled R65 or H304 and intended for supply to the general public bear the following labels in a clearly visible, legible and indelible manner: Lamps filled with this liquid must be kept out of reach of children

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|                           |                            |   |
|---------------------------|----------------------------|---|
| <p>Diocetyl tin oxide</p> | <p>Organotin compounds</p> | <p>and from 1 December 2010. Even a small sip of lamp oil - or even just sucking on a lamp wick - can cause life-threatening damage to the lungs.</p> <p>b) Liquid barbecue lighters labelled R65 or H304 and intended for supply to the general public will bear the following inscription legibly and indelibly from 1 December 2010: ‚Even a small sip of barbecue lighter can cause life-threatening damage to the lungs‘.</p> <p>c) Lamp oils and barbecue lighters labelled R65 or H304 and intended for supply to the general public will be packaged in black opaque containers not exceeding 1 litre from 1 December 2010.</p> <p>6. By 1st of June 2014 at the latest, the Commission shall request the European Chemicals Agency to prepare a dossier in accordance with Article 69 of this Regulation with a view to the adoption, if appropriate, of a ban on grill lighter fluids and decorative lamp fuels labelled with R65 or H304 and intended for supply to the general public.</p> <p>7. Natural or legal persons placing lamp oils and grill lighter fluids labelled with R65 or H304 on the market for the first time shall submit data on alternatives to lamp oils and grill lighter fluids labelled with R65 or H304 to the competent authority of the Member State concerned by 1 December 2011 and annually thereafter. Member States shall make this data available to the Commission.</p> <p>1. Shall not be placed on the market or used as substances or in mixtures if they act as biocides in paints whose constituents are not chemically bound.</p> <p>2. Shall not be placed on the market or used as substances or in mixtures which act as biocides to prevent fouling by micro-organisms, plants or animals on the following articles:</p> <p>a) on all craft, irrespective of their length, operating on sea waterways, coastal and estuarine waterways, inland waterways and lakes;</p> <p>b) on boxes, floats, nets and other equipment or devices used for fish and shellfish farming;</p> <p>c) any totally or partially submerged gear or equipment.</p> <p>3. Shall not be placed on the market or used as substances or in mixtures intended for the treatment of water in the industrial, commercial and municipal sectors.</p> <p>4. Trisubstituted organostannic compounds:</p> <p>a) Trisubstituted organostannic compounds such as tributyltin compounds (TBT) and triphenyltin compounds (TPT) shall not be used in articles after 1st of July 2010 if the concentration of tin in the article or parts thereof exceeds 0,1 % by weight.</p> |
|---------------------------|----------------------------|---|

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- b) Products not complying with point (a) shall no longer be placed on the market after 1st of July 2010, except for products that were already in use in the Community before that date.
5. Dibutyltin compounds (DBT):
- a) Dibutyltin compounds (DBT) shall not be used after 1st of January 2012 in mixtures and articles intended to be supplied to the general public if the concentration of tin in the mixture or article, or in any part thereof, exceeds 0,1 % by weight.
- b) Products and mixtures not complying with point (a) shall not be placed on the market after 1st of January 2012, except for products that were already in use in the Community before that date.
- c) By way of derogation, points (a) and (b) shall not apply until 1st of January 2015 to the following products and mixtures intended to be supplied to the general public:
- One-component and two-component room temperature vulcanising sealants (RTV-1 and RTV-2 sealants) and adhesives;
  - paints and coatings containing DBT compounds as catalysts when applied to articles;
  - soft polyvinyl chloride (PVC) profiles, co-extruded with rigid PVC or not;
  - fabrics coated with PVC containing DBT compounds as stabilisers when they are intended for outdoor use
  - outdoor rainwater pipes, gutters and flashings, and roofing and cladding material.
- d) By way of derogation, points (a) and (b) shall not apply to materials and articles covered by Regulation (EC) No 1935/2004.6. dioctyltin compounds (DOT):
- a) Dioctyltin compounds (DOT) shall not be used after 1 January 2012 in the articles listed below which are intended to be supplied to or used by the general public, if the concentration of tin in the article or parts thereof exceeds 0,1 % by weight:
- Textile articles intended to come into contact with the skin;
  - Gloves;
  - Footwear or parts thereof intended to come into contact with the skin;
  - Wall and floor coverings;
  - Childcare articles;
  - Feminine hygiene articles;
  - Nappies;
  - Two-component room temperature vulcanisation impression sets (RTV-2 impression sets).

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b) Products which do not comply with point (a) shall not be placed on the market after 1 January 2012, except for products which were already in use in the Community before that date.

**National legislation Belgium:**

RALMO<sup>®</sup>-Foil Adhesive

Waste identification (the Netherlands)  
Water hazard

LWCA (the Netherlands): KGA category 05  
8

**National legislation Germany:**

RALMO<sup>®</sup>-Foil Adhesive

WGK 2;

classification hazardous to water on component basis according to Administrative regulation substances hazardous to water (VwVwS) of 27 July 2005 (Annex 4).

3-(Trimethoxysilyl)propylamine

TA-Air

5.2.5

Diocetyl tin oxide

MAK - Carcinogenic

4

Category

MAK 8-hour average

Ppm

n-octyltin compounds (as Sn); 0.002 ppm; as Sn may also be present as vapour

MAK 8-hour average

mg/m<sup>3</sup>

n-octyltin compounds (as Sn); 0.0098 mg/m<sup>3</sup>; as Sn measured as inhalable fraction (see section Vd) p. 191

TA-Luft

5.2.5; I

**National legislation France:**

RALMO<sup>®</sup>-Foil Adhesive

No data available.

**National legislation Belgium:**

RALMO<sup>®</sup>-Foil Adhesive

No data available.

**Other relevant data:**

RALMO<sup>®</sup>-Foil Adhesive

No data available.

Diocetyl tin oxide

TLV - Carcinogen Tin organic compounds, as Sn; A4

**15.2 Chemical safety assessment:**

No chemical safety assessment required.

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### SECTION 16: Other information

#### Full text of all R-phrases listed under point 2 and 3:

R38 Irritating to skin  
R41 Risk of serious damage to eyes  
R48/25 Toxic: Danger of serious damage to health by prolonged exposure if swallowed.

#### Full text of all H-phrases listed under points 2 and 3:

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H372 Causes damage to the thymus through prolonged or repeated exposure.

(\*) = SELBSTEINSTUFUNG VON BIG

PBT Stoffe = persistente, bioakkumulierbare und toxische Stoffe

DSD Dangerous Substance Directive

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europa)

All information contained in this safety data sheet is based on data and samples supplied by BIG.

The information is given to the best of our knowledge and belief and corresponds to the state of knowledge at the time of preparation of the safety data sheet. The safety data sheet only provides instructions on how to safely handle, use, consume, store, transport and dispose of the substances/preparations/mixtures listed under point 1. New safety data sheets will be produced in due course and only the most recent version may be used. Older versions must be destroyed. Unless expressly stated otherwise in the safety data sheet, the information given in it does not apply to the substances/preparations/mixtures in a purer form, as a mixture with other substances or in any other processing. The safety data sheet does not specify the quality of the substances/preparations/mixtures concerned. Compliance with the instructions contained in the safety data sheet does not release the consumer from his obligation to take all measures which common sense and the regulations and recommendations suggest in this respect or which are necessary and/or useful on the basis of the specific conditions of use. BIG does not guarantee the accuracy or completeness of the information contained herein and cannot be held liable for any changes made by third parties. This Safety Data Sheet is intended for use in the European Union, Switzerland, Iceland, Norway and Liechtenstein only. Any use outside the area of application is at your own risk. Use of this Safety Data Sheet is subject to the licence and limitation of liability provisions contained in your BIG licence agreement or, if these do not apply, to the general provisions of BIG. All intellectual property rights associated with this Safety Data Sheet are owned by BIG; distribution and reproduction rights are restricted. For details, please refer to the aforementioned agreement or provisions.

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*(The data of the hazardous ingredients were taken from the latest safety data sheet of the supplier).*