

**SAFETY DATA SHEET**  
according to 1907/2006/EC, Article 31

Page 1/8

**Ultra-Vest (TM) investment with fiberglass**

Revision 4

Revision date 2015-06-02

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

|              |  |
|--------------|--|
| Product name | Ultra-Vest (TM) investment with fiberglass |
| Product code | Ultra-Vest investment w FG NA 060215 R008  |

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

|             |                   |
|-------------|-------------------|
| Description | Foundry material. |
|-------------|-------------------|

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

|                                       |  |
|---------------------------------------|--|
| Company                               | Ransom & Randolph                                  |
| Address                               | 3535 Briarfield Boulevard,<br>Maumee, OH 43537 USA |
| Web                                   | www.ransom-randolph.com                            |
| Telephone                             | +1 (419) 865-9497                                  |
| Fax                                   | +1 (419) 865-9997                                  |
| Email                                 | RR.SDS@dentsply.com                                |
| Email address of the competent person | RR.SDS@dentsply.com                                |

**1.4. Emergency telephone number**

|                            |  |
|----------------------------|--|
| Emergency telephone number | USA +1 419 865 9497  |
| Company                    | Ransom & Randolph Co.<br>07:30 to 16:30 (Eastern Std. / GMT minus 5) |

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

|                                      |   |
|--------------------------------------|---|
| 2.1.1. Classification - 1999/45/EC   | Xn; R48/20<br>Symbols: Xn: Harmful.   |
| Main hazards                         | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| 2.1.2. Classification - EC 1272/2008 | Carc. 1A: H350; STOT RE 1: H372;  |

**2.2. Label elements**

|                                     |  |
|-------------------------------------|--|
| Hazard pictograms                   |  |
| Signal Word                         | Danger   |
| Hazard Statement                    | Carc. 1A: H350 - May cause cancer (lungs), Inhalation.<br>STOT RE 1: H372 - Causes damage to organs (lungs) through prolonged or repeated exposure inhalation. |
| Precautionary Statement: Prevention | P201 - Obtain special instructions before use.<br>P202 - Do not handle until all safety precautions have been read and understood.                             |

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

## 2.2. Label elements

|   |   |
|---|---|
| <b>Precautionary Statement:<br/>Response</b><br><br><b>Precautionary Statement:<br/>Storage</b><br><br><b>Precautionary Statement:<br/>Disposal</b> | P260 - Do not breathe dust/fume/gas/mist/vapours/spray.<br>P264 - Wash (hands) thoroughly after handling.<br>P270 - Do not eat, drink or smoke when using this product.<br>P280 - Wear protective gloves/protective clothing/eye protection/face protection.<br>P285 - In case of inadequate ventilation wear respiratory protection. |
|   | P308+P313 - IF exposed or concerned: Get medical advice/attention.<br>P314 - Get medical advice/attention if you feel unwell.   |
|   | P405 - Store locked up.   |
|   | P501 - Dispose of contents/container to local and national regulations  |

## 2.3. Other hazards

|                            |  |
|----------------------------|--|
| <b>Other hazards</b>       | Product contains crystalline silica.     |
| <b>Further information</b> | Not applicable. PBT and vPvB assessment. |

## SECTION 3: Composition/information on ingredients

## 3.2. Mixtures

## 67/548/EEC / 1999/45/EC

| Chemical Name                            | Index No. | CAS No.    | EC No.    | REACH Registration Number | Conc. (%w/w) | Classification | M-factor. |
|--|-----------|------------|-----------|---------------------------|--------------|----------------|-----------|
| silica (cristobalite conc. $\geq$ 1.0 %) |           | 14464-46-1 | 238-455-4 |                           |              | Xn; R48/20     |           |
| quartz (conc. $\geq$ 1.0% )              |           | 14808-60-7 | 238-878-4 |                           |              | Xn; R48/20     |           |
| Calcium sulfate (Plaster of Paris)       |           | 26499-65-0 |           |                           |              |                |           |

## EC 1272/2008

| Chemical Name                            | Index No. | CAS No.    | EC No.    | REACH Registration Number | Conc. (%w/w) | Classification                   | M-factor. |
|--|-----------|------------|-----------|---------------------------|--------------|----------------------------------|-----------|
| silica (cristobalite conc. $\geq$ 1.0 %) |           | 14464-46-1 | 238-455-4 |                           |              | Carc. 1A: H350; STOT RE 1: H372; |           |
| quartz (conc. $\geq$ 1.0% )              |           | 14808-60-7 | 238-878-4 |                           |              | Carc. 1A: H350; STOT RE 1: H372; |           |
| Calcium sulfate (Plaster of Paris)       |           | 26499-65-0 |           |                           |              |                                  |           |
| amorphous glass fiber                    |           | 65997-17-3 |           |                           |              |                                  |           |

## Further information

|  |   |
|--|---|
|  | Full text for all Risk Phrases mentioned in this section are displayed in Section 16. |
|--|---|

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Move the exposed person to fresh air.   |
| <b>Eye contact</b>  | Rinse immediately with plenty of water for 15 minutes holding the eyelids open. |
| <b>Skin contact</b> | Wash with soap and water.   |
| <b>Ingestion</b>    | Drink 1 to 2 glasses of water. DO NOT INDUCE VOMITING.                          |

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

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | May cause irritation to respiratory system. |
| <b>Eye contact</b>  | May cause irritation to eyes.               |
| <b>Skin contact</b> | May cause irritation to skin.               |
| <b>Ingestion</b>    | May cause irritation to mucous membranes.   |

## 4.3. Indication of any immediate medical attention and special treatment needed

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | Seek medical attention if irritation or symptoms persist. |
|-------------------|---|

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

**4.3. Indication of any immediate medical attention and special treatment needed**

|              |   |
|--------------|---|
| Eye contact  | Seek medical attention if irritation or symptoms persist. |
| Skin contact | Seek medical attention if irritation or symptoms persist. |
| Ingestion    | Seek medical attention if irritation or symptoms persist. |

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

|  |   |
|--|---|
|  | Use extinguishing media appropriate to the surrounding fire conditions. |
|--|---|

**5.2. Special hazards arising from the substance or mixture**

|  |   |
|--|---|
|  | Burning produces irritating, toxic and obnoxious fumes. |
|--|---|

**5.3. Advice for firefighters**

|  |  |
|--|--|
|  | Self-contained breathing apparatus. Wear suitable protective clothing. |
|--|--|

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

|  |   |
|--|---|
|  | Avoid raising dust. Wear suitable respiratory equipment when necessary. |
|--|---|

**6.2. Environmental precautions**

|  |                                |
|--|--------------------------------|
|  | No environmental requirements. |
|--|--------------------------------|

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

|  |  |
|--|--|
|  | Avoid raising dust. Clean the area using a vacuum cleaner. Transfer to suitable, labelled containers for disposal. |
|--|--|

**6.4. Reference to other sections**

|  |  |
|--|--|
|  | See section [2, 8 & 13] for further information. |
|--|--|

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

|  |  |
|--|--|
|  | Avoid raising dust. Ensure adequate ventilation of the working area. In case of insufficient ventilation, wear suitable respiratory equipment. |
|  | Do not eat, drink or smoke in areas where this product is used or stored. Wash hands after handling the product.                               |

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

|  |                                 |
|--|---------------------------------|
|  | Keep containers tightly closed. |
|--|---------------------------------|

**7.3. Specific end use(s)**

|  |                   |
|--|-------------------|
|  | Foundry material. |
|--|-------------------|

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

|  |  |
|--|--|
|  | exposure limits - Crystalline Silica, Cristobalite - 0.025 mg/m <sup>3</sup> TWA ACGIH TLV (respirable fraction); 10 mg/m <sup>3</sup> / [ 2(% Silica + 2)] TWA PEL (respirable fraction). |
|  | exposure limits - Crystalline Silica, quartz - 0.025 mg/m <sup>3</sup> TWA ACGIH TLV (respirable fraction); 10 mg/m <sup>3</sup> / (% Silica + 2) TWA PEL (respirable fraction).           |

**8.1.1. Exposure Limit Values**

## Ultra-Vest (TM) investment with fiberglass


Revision 4

Revision date 2015-06-02

## 8.1.1. Exposure Limit Values

|                                    |                               |                                |
|------------------------------------|-------------------------------|--------------------------------|
| Calcium sulfate (Plaster of Paris) | WEL 8-hr limit ppm: -         | WEL 8-hr limit mg/m3: -        |
|                                    | WEL 15 min limit ppm: -       | WEL 15 min limit mg/m3: -      |
|                                    | WEL 8-hr limit mg/m3 total 10 | WEL 15 min limit mg/m3 total - |
|                                    | inhalable dust:               | inhalable dust:                |
|                                    | WEL 8-hr limit mg/m3 total 4  | WEL 15 min limit mg/m3 total - |
|                                    | respirable dust:              | respirable dust:               |

## 8.2. Exposure controls

|   |  |
|---|--|
|   |         |
| 8.2.1. Appropriate engineering controls | Ensure adequate ventilation of the working area.   |
| 8.2.2. Individual protection measures   | Protective clothing.   |
| Eye / face protection                   | In case of splashing, wear:.. Approved safety goggles. safety glasses with side-shields. |
| Skin protection - Handprotection        | Wear suitable gloves.  |
| Respiratory protection                  | Suitable respiratory equipment.  |
| 8.2.3. Environmental exposure controls  | Not normally required.   |
| Occupational exposure controls          | Appropriate local exhaust ventilation is required.                                       |

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

|                           |                             |
|---------------------------|-----------------------------|
| Appearance                | Powder                      |
| Colour                    | Off white                   |
| Odour                     | Slight                      |
| pH                        | 6 - 8                       |
| Melting point             | Not applicable.             |
| Freezing Point            | Not applicable.             |
| Initial boiling point     | Not applicable.             |
| Evaporation rate          | Not applicable.             |
| Flammability (solid, gas) | Not applicable.             |
| Vapour pressure           | Not applicable.             |
| Vapour density            | Not applicable.             |
| Relative density          | 2.2 - 2.7 (H2O = 1 @ 20 °C) |
| Fat Solubility            | Not applicable.             |
| Partition coefficient     | Not applicable.             |
| Autoignition temperature  | Not applicable.             |
| Viscosity                 | Not applicable.             |
| Explosive properties      | Not applicable.             |
| Oxidising properties      | Not applicable.             |
| Solubility                | Slightly soluble in water   |

## 9.2. Other information

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

## 9.2. Other information

|                                  |                   |
|----------------------------------|-------------------|
| Conductivity                     | Not applicable.   |
| Surface tension                  | Not applicable.   |
| Gas group                        | Not applicable.   |
| Benzene Content                  | Not applicable.   |
| Lead content                     | No data available |
| VOC (Volatile organic compounds) | Not applicable.   |

## SECTION 10: Stability and reactivity

## 10.1. Reactivity

Not applicable.

## 10.2. Chemical stability

Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

No Significant Hazard.

## 10.4. Conditions to avoid

Moisture.

## 10.5. Incompatible materials

No Significant Hazard.

## 10.6. Hazardous decomposition products

Hazardous Decomposition Products (silica): Crystalline silica will dissolve in hydrofluoric acid and produce silicone tetrafluoride. Reaction with water or acids generates heat.

## SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

|                                   |   |
|-----------------------------------|---|
| Acute toxicity                    | Based on available data, the classification criteria are not met.   |
| Skin corrosion/irritation         | Prolonged or repeated exposure may cause irritation to skin and mucous membranes.   |
| Serious eye damage/irritation     | No irritation expected.   |
| Respiratory or skin sensitisation | No sensitization effects reported.  |
| Germ cell mutagenicity            | No mutagenic effects reported.  |
| Carcinogenicity                   | Known Human Carcinogens (Category 1).   |
| Reproductive toxicity             | No observed effect level. No observed effect concentration.   |
| STOT-single exposure              | No known adverse health effects.  |
| STOT-repeated exposure            | <p>Chronic effects</p> <p>Prolonged inhalation of respirable crystalline silica</p> <p>In 1997, the International Agency for Research on Cancer (IARC) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France). In June 2003, the European Commission's Scientific Committee for Occupational Exposure Limits (SCOEL) concluded:</p> <p>"that the main effect in humans of the inhalation of respirable crystalline silica is silicosis. There is sufficient information to conclude that the relative lung cancer risk is increased in persons with silicosis (and apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk. Since a clear threshold for silicosis development cannot be identified, any reduction of exposure will reduce the risk of silicosis."</p> <p>(SCOEL SUM Doc 94-final on respirable crystalline silica, June 2003)</p> |

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

## 11.1. Information on toxicological effects

|   |  |
|---|--|
| Aspiration hazard<br>Repeated or prolonged exposure | There is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see Section 16). |
|   | No Significant Hazard.   |
|   | Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system.  |

## 11.1.4. Toxicological Information

|  |                              |
|--|------------------------------|
| Ultra-Vest (TM) investment with fiberglass | Oral Mouse LD50: >5000 mg/kg |
|--|------------------------------|

## SECTION 12: Ecological information

## 12.1. Toxicity

|  |                               |
|--|-------------------------------|
| Ultra-Vest (TM) investment with fiberglass | Fish LC50/96h: 10000.000 mg/l |
|--|-------------------------------|

## 12.2. Persistence and degradability

|  |                                       |
|--|---------------------------------------|
|  | No data is available on this product. |
|--|---------------------------------------|

## 12.3. Bioaccumulative potential

|  |                         |
|--|-------------------------|
|  | Does not bioaccumulate. |
|--|-------------------------|

## Partition coefficient

|  |  |
|--|--|
|  | Ultra-Vest (TM) investment with fiberglass Not applicable. |
|--|--|

## 12.4. Mobility in soil

|  |                 |
|--|-----------------|
|  | Not determined. |
|--|-----------------|

## 12.5. Results of PBT and vPvB assessment

|  |                 |
|--|-----------------|
|  | Not determined. |
|--|-----------------|

## 12.6. Other adverse effects

|  |                 |
|--|-----------------|
|  | Not applicable. |
|--|-----------------|

## SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

|  |  |
|--|--|
|  | Dispose of in compliance with all. local and national regulations. |
|--|--|

## Disposal methods

|  |  |
|--|--|
|  | Contact a licensed waste disposal company. |
|--|--|

## Disposal of packaging

|  |   |
|--|---|
|  | Empty containers can be sent for disposal or recycling. |
|--|---|

## SECTION 14: Transport information

## ADR/RID

|  |  |
|--|--|
|  | The product is not classified as dangerous for carriage. |
|--|--|

## IMDG

|  |  |
|--|--|
|  | The product is not classified as dangerous for carriage. |
|--|--|

## IATA

|  |  |
|--|--|
|  | The product is not classified as dangerous for carriage. |
|--|--|

## Further information

|  |  |
|--|--|
|  | The product is not classified as dangerous for carriage. |
|--|--|

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

|                    |   |
|--------------------|---|
| <b>Regulations</b> | <p>U.S. FEDERAL REGULATIONS:</p> <p>CERCLA 103 Reportable Quantity: The Ultra-Vest (family of products) is not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.</p> <p>SARA TITLE III:<br/>Hazard Category For Section 311/312: Chronic health</p> <p>Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None</p> <p>Section 302 Extremely Hazardous Substances (TPQ): None</p> <p>EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.</p> <p>U.S. STATE REGULATIONS</p> <p>California Proposition 65: This product contains the following substances known to the State of California to cause cancer: Crystalline Silica as Quartz: less than 50%, Crystalline Silica as Cristobalite: greater than 30%.</p> <p>INTERNATIONAL REGULATIONS:</p> <p>Canadian Environmental Protection Act: All of the components in this product are listed on the Domestic Substances List (DSL).</p> <p>Canadian WHMIS Classification: Class D Division 2A (Very toxic material causing other toxic effects)</p> <p>European Inventory of New and Existing Chemicals Substances (EINECS): All of the components in this product are listed on the EINECS inventory.</p> <p>Australian Inventory of Chemical Substances: All of the components in this product are listed on the AICS for Australia.</p> <p>China Inventory of Existing Chemicals and Chemical Substances: All of the components in this product are listed on the IECSC for China.</p> <p>Japanese Existing and New Chemical Substances: All of the components in this product are listed on the Japanese ENCS list.</p> <p>Korean Existing Chemicals List: All of the components in this product are listed on the KECL for Korea.</p> <p>Philippine Inventory of Chemicals and Chemical Substances: All of the components in this product are listed on the PICCS.</p> |
|--------------------|---|

**15.2. Chemical safety assessment**

No data is available on this product.

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

## Ultra-Vest (TM) investment with fiberglass

Revision 4

Revision date 2015-06-02

| Other information                      |  |
|--|--|
| Revision                               | This document differs from the previous version in the following areas:<br>2 - Precautionary Statement: Prevention.  |
| Text of risk phrases in Section 3      | R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.   |
| Text of Hazard Statements in Section 3 | Carc. 1A: H350 - May cause cancer .<br>STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure .  |
| Further information                    |  |
|  | <p>Training</p> <p>Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.</p> <p>The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.</p> |