

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

#### 1.1. Product identifier

Product form : Mixture  
 Product name : Rescocast 4LI  
 CAS No : Mixture  
 Product code : Mix 01.130  
 Product group : Finished Goods  
 Other means of identification : Alumina-Silicate Cement Bonded Castable

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
 For professional use only  
 Use of the substance/mixture : Refractory

##### 1.2.2. Uses advised against

No additional information available

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

Resco Products (UK) Limited  
 Newbold Works, Melbourne Road, Lount  
 LE65 1PL Ashby-de-la-Zouch - England  
[Adrian.Hudson@Rescoproducts.com](mailto:Adrian.Hudson@Rescoproducts.com)

#### 1.4. Emergency telephone number

Emergency number : + 44 (0) 1530 222694

### SECTION 2: Hazards identification

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

##### Classification

This Product contains Quartz & Cristobalite (Fine Fraction) as an impurity and therefore is classified as STOT RE 2 according to criteria defined in the Regulation EC 1272/2008 and does not meet the criteria for classification as harmful according to Directive 67/548/EC

##### Adverse physicochemical, human health and environmental effects

Depending on the type of handling and use (e.g. grinding, drying), airborne respirable crystalline silica may be generated. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Warning  
 Hazard statements (CLP) : H373 May Cause Damage to Organs through prolonged or repeated exposure.

Precautionary statements (CLP) : P260 - Do not breathe dust  
 P280 - Wear eye protection, respiratory protection, protective gloves  
 P285 - In case of inadequate ventilation wear respiratory 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  
 P332 - If skin irritation occurs: Get medical advice/attention  
 P337+P313 - If eye irritation persists: Get medical advice/attention  
 P501 - Dispose of Contents/Containers in accordance with local regulations.

#### 2.3. Other hazards

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Cristobalite	(CAS No) 14464-46-1 (EC no) 238-455-4	1.5 – 2.5	Not Classified
Quartz	(CAS No) 14808-60-7 (EC no) 238-878-4	8 - 10	Not Classified

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Cristobalite	(CAS No) 14464-46-1 (EC no) 238-455-4	1.5 – 2.5	STOT RE 2
Quartz	(CAS No) 14808-60-7 (EC no) 238-878-4	8 - 10	STOT RE 2

Contains between 1% and 10% of Quartz / Cristobalite (Fine Fraction) which is classified as STOT RE 2

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Wash with plenty of soap and water.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison centre or a doctor if you feel unwell.

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

- Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : No unsuitable extinguishing media known.

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

- Fire hazard : Not flammable.
- Explosion hazard : None.
- Hazardous decomposition products in case of fire : None.

#### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. 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 : Do not breathe dust. Avoid airborne dust generation, wear personal protective equipment in compliance with national legislation.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Equip clean-up crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

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

- Methods for cleaning up : Avoid dry sweeping and use water spraying or vacuum cleaning systems to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.

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

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. 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. Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Avoid raising dust. Avoid contact with skin and eyes. Do not breathe dust.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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 this product in a dry location where it can be protected from the elements.
- Incompatible products : Strong bases. Strong acids.

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Incompatible materials : Strong acids, bases.

### 7.3. Specific end use(s)

If you require advice on specific uses, please contact your supplier or check the Good Practice Guide referred to in section 16.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Quartz (14808-60-7)		
Belgium	Limit value (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	0.1 A
Sweden	AFS 2011:18 LLV (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> respirable dust
Norway	Limit value (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.1 R
Germany	MAK OEL (mg/m <sup>3</sup> )	Note (1)
Italy	ACGIH TLV (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
Spain	ITC Limit Value (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
Cristobalite (14464-46-1)		
Belgium	Limit value (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	0.05 A
Sweden	AFS 2011:18 LLV (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> respirable dust
Norway	Limit value (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.1 R
Germany	MAK OEL (mg/m <sup>3</sup> )	Note (1)
Italy	ACGIH TLV (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
Spain	ITC Limit Value (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>

Note (1): Germany has no OEL for quartz & cristobalite. Employers are obliged to minimize exposure as much as possible, and to follow certain protective measures.

### 8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Personal protective equipment : Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE).



Hand protection : Wear protective gloves  
Eye protection : Chemical goggles or safety glasses.  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear appropriate mask  
Environmental exposure controls : Avoid release to the environment.  
Other information : Do not eat, drink or smoke during use. Avoid Generation of dust when cutting / grinding installed product.

## SECTION 9: Physical and chemical properties

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

Physical state : Solid  
Appearance : Granular mixture.  
Colour : Grey.  
Odour : Earthy Odor.  
Odour threshold : Not applicable  
pH : No data available  
Relative evaporation rate (butylacetate=1) : Not applicable  
Relative evaporation rate (ether=1) : Not applicable  
Melting point : > 1427 °C  
Freezing point : Not applicable  
Boiling point : Not applicable  
Flash point : Not applicable  
Critical temperature : Not applicable  
Auto-ignition temperature : Not applicable  
Decomposition temperature : No data available  
Flammability (solid, gas) : None  
Non flammable  
Vapour pressure : Not Applicable  
Vapour pressure at 50 °C : Not Applicable

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Critical pressure	: Not applicable
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: Slight
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not Applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Hydraulic setting.

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Avoid dust formation.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Conclusive but not sufficient for classification) Causes skin irritation
Serious eye damage/irritation	: Not classified (Conclusive but not sufficient for classification) Causes eye irritation
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Conclusive but not sufficient for classification) May cause cancer by inhalation
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: This Product contains Quartz & Cristobalite (Fine Fraction) as an impurity. Generated dust Is classified as STOT RE2 according to criteria defined in Regulation EC 1272/2008
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Potential adverse human health effects and symptoms	: Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans (human carcinogen category 1). 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 fibres, 1997, Vol. 68, IARC, Lyon, France.) In 2009, in the Monographs 100 series, IARC confirmed its classification of Silica Dust, Crystalline, in the form of Quartz and Cristobalite (IARC Monographs, Volume 100C, 2012). n June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer 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..." (SCOEL SUM Doc 94-final, June 2003). So 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 below)

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### 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.

#### 12.2. Persistence and degradability

##### Rescocast 4LI (Mixture)

Persistence and degradability : Not established.

##### Quartz (14808-60-7)

Persistence and degradability : Biodegradability: not applicable.

Biochemical oxygen demand (BOD) : Not applicable

Chemical oxygen demand (COD) : Not applicable

ThOD : Not applicable

BOD (% of ThOD) : Not applicable

##### Cristobalite (14464-46-1)

Persistence and degradability : Biodegradability: not applicable.

Biochemical oxygen demand (BOD) : Not applicable

Chemical oxygen demand (COD) : Not applicable

ThOD : Not applicable

BOD (% of ThOD) : Not applicable

#### 12.3. Bioaccumulative potential

##### Rescocast 4LI (Mixture)

Bioaccumulative potential : Not established.

##### Quartz (14808-60-7)

Log Pow : Not applicable

Bioaccumulative potential : No bioaccumulation data available.

##### Cristobalite (14464-46-1)

Log Pow : Not applicable

Bioaccumulative potential : No bioaccumulation data available.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

Additional information : Avoid release to the environment

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

Not regulated for transport

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

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

##### ADR

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

##### IMDG

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

##### IATA

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

##### ADN

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

##### RID

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

#### 14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

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### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

#### 14.6.2. Transport by sea

#### 14.6.3. Air transport

#### 14.6.4. Inland waterway transport

Not subject to ADN : No

#### 14.6.5. Rail transport

Carriage prohibited (RID) : No

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

#### 15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions  
Rescocast 4LI is not on the REACH Candidate List  
Contains no substance on the REACH candidate list  
Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Other information

: This product is a proprietary mixture of unique ingredients & is supplied in a premixed dry condition. Avoid generation of airborne dust when handling. Product dust & dust generated by grinding / cutting installed product should be treated as classified STOT RE 2. This MSDS is prepared to alert Customers and other users to the various components of the product and their relative quantity and toxicity in the product as provided. The user must review his/her own circumstances and then determine what is required to establish a safe working environment

Insofar as materials not manufactured or supplied by Resco Products that are used in conjunction with, or instead of Resco Products materials, it is the responsibility of the customer himself to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of Resco Products materials in conjunction with materials from another supplier.

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.

A multi-sectoral social dialogue agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it was signed on 25 April 2006. This autonomous agreement, which received the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25 October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from <http://www.nepsi.eu> and provide useful information and guidance for the handling of products containing respirable crystalline silica. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers

SDS EU (REACH Annex II)

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