

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Sureflow 60LC  
UFI : SJT4-1021-E00K-DER3  
CAS-No. : Mixture  
Product code : 1742  
Product group : Finished Good  
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 use  
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  
T 44 (0) 1530 222694  
[UK.SDS@RescoProducts.com](mailto:UK.SDS@RescoProducts.com) - [www.RescoProducts.com](http://www.RescoProducts.com)

#### 1.4. Emergency telephone number

Emergency number : EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300  
Outside USA & Canada +1 703-741-5970

### SECTION 2: Hazards identification

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

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

Specific target organ toxicity – Repeated exposure, Category 2 H373

Full text of H- and EUH-statements: see section 16

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

This product contains Quartz (Fine Fraction) between 0.1 to 10% and 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.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

GHS07

Signal word (CLP) : Warning  
Contains : cristobalite EU  
Hazard statements (CLP) : H373 - May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).  
Precautionary statements (CLP) : P260 - Do not breathe dust.  
P280 - Wear eye protection, protective gloves.  
P284 - In case of inadequate ventilation wear respiratory protection.  
P314 - Get medical advice/attention if you feel unwell.

#### 2.3. Other hazards

Other hazards which do not result in classification : Irritating to eyes and skin.  
Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

##### Component

quartz, 1% $\leq$ conc respirable crystalline silica $\leq 10\%$ (14808-60-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
cristobalite EU (14464-46-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
aluminium oxide, non-fibrous (1344-28-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
aluminium oxide, non-fibrous	CAS-No.: 1344-28-1 EC-No.: 215-691-6	20 – 50	Not classified
Calcium Aluminate Cement	CAS-No.: 65997-16-2 EC-No.: 266-045-5	5 – 10	Not classified
crystalite EU	CAS-No.: 14464-46-1 EC-No.: 238-455-4	1 – 5	STOT RE 2, H373
quartz, 1%≤conc respirable crystalline silica<10%	CAS-No.: 14808-60-7 EC-No.: 238-878-4	1 – 5	STOT RE 1, H372

Full text of H- and EUH-statements: see section 16

## 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	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Gently 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.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects after inhalation	: May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects 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	: In case of fire, all extinguishing media allowed.

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

Fire hazard	: Not flammable.
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### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment	: Safety glasses. [In case of inadequate ventilation] wear respiratory protection. Gloves.
Emergency procedures	: Do not breathe dust. Avoid contact with skin and eyes.
Measures in case of dust release	: Ventilate area.

#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area. On land, sweep or shovel into suitable containers.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

Methods for cleaning up	: On land, sweep or shovel into suitable containers. Minimise generation of dust.
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### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: 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.

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

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

##### quartz, 1% ≤ conc respirable crystalline silica < 10% (14808-60-7)

###### EU - Indicative Occupational Exposure Limit (IOEL)

IOEL TWA 0.1 mg/m<sup>3</sup> (Respirable fraction)

###### Belgium - Occupational Exposure Limits

OEL TWA 0.1 mg/m<sup>3</sup>

###### France - Occupational Exposure Limits

VME (OEL TWA) 0.1 mg/m<sup>3</sup> (La valeur limite concerne la fraction alvéolaire)

###### Netherlands - Occupational Exposure Limits

TGG-8u (OEL TWA) 0.075 mg/m<sup>3</sup> (respirabele fractie)

###### United Kingdom - Occupational Exposure Limits

WEL TWA (OEL TWA) [1] 0.1 mg/m<sup>3</sup>

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

ACGIH OEL TWA 0.025 mg/m<sup>3</sup> (Respirable fraction)

##### crystalite EU (14464-46-1)

###### Belgium - Occupational Exposure Limits

OEL TWA 0.05 mg/m<sup>3</sup>

###### France - Occupational Exposure Limits

VME (OEL TWA) 0.05 mg/m<sup>3</sup> (La valeur limite concerne la fraction alvéolaire)

###### Netherlands - Occupational Exposure Limits

TGG-8u (OEL TWA) 0.075 mg/m<sup>3</sup> (respirabele fractie)

###### United Kingdom - Occupational Exposure Limits

WEL TWA (OEL TWA) [1] 0.1 mg/m<sup>3</sup>

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

ACGIH OEL TWA 0.025 mg/m<sup>3</sup> (Respirable fraction)

##### aluminium oxide, non-fibrous (1344-28-1)

###### Belgium - Occupational Exposure Limits

OEL TWA 1 mg/m<sup>3</sup>

###### France - Occupational Exposure Limits

VME (OEL TWA) 10 mg/m<sup>3</sup>

###### United Kingdom - Occupational Exposure Limits

WEL TWA (OEL TWA) [1] 10 mg/m<sup>3</sup>  
4 mg/m<sup>3</sup>

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

ACGIH OEL TWA 1 mg/m<sup>3</sup> respirable dust

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Provide adequate ventilation to minimize dust concentrations.

#### 8.2.2. Personal protection equipment

##### Personal protective equipment:

Avoid all unnecessary exposure.

##### 8.2.2.1. Eye and face protection

###### Eye protection:

Chemical goggles or safety glasses

##### 8.2.2.2. Skin protection

###### Skin and body protection:

Wear suitable protective clothing

###### Hand protection:

Wear protective gloves.

##### 8.2.2.3. Respiratory protection

###### Respiratory protection:

Wear appropriate mask

##### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

##### Other information:

Do not eat, drink or smoke during use.

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### SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Colour	: Grey.
Appearance	: Granular mixture.
Odour	: None.
Odour threshold	: Not available
Melting point	: > 1600 °C
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not flammable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not Applicable
Solubility	: Slightly soluble.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

#### 9.2. Other information

##### 9.2.1. Information with regard to physical hazard classes

Critical temperature : Not applicable

##### 9.2.2. Other safety characteristics

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Hydraulic setting.

#### 10.2. Chemical stability

Stable under normal conditions of use.

#### 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

No additional information available

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

#### aluminium oxide, non-fibrous (1344-28-1)

LD50 oral rat	> 15900 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 2.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
Skin corrosion/irritation	: Not classified
Additional information	: Causes skin irritation.

#### Calcium Aluminate Cement (65997-16-2)

pH	≤ 13
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#### quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)

pH	6 – 7
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<b>crystalite EU (14464-46-1)</b>	
pH	6 – 7
<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
pH	9 – 10.5 (aqueous suspension, 33 %)
Serious eye damage/irritation	: Not classified
<b>Calcium Aluminate Cement (65997-16-2)</b>	
pH	≤ 13
<b>quartz, 1%≤conc respirable crystalline silica&lt;10% (14808-60-7)</b>	
pH	6 – 7
<b>crystalite EU (14464-46-1)</b>	
pH	6 – 7
<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
pH	9 – 10.5 (aqueous suspension, 33 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).
<b>quartz, 1%≤conc respirable crystalline silica&lt;10% (14808-60-7)</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure (if inhaled).
<b>crystalite EU (14464-46-1)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (if inhaled).
Aspiration hazard	: Not classified
<b>Sureflow 60LC (Mixture)</b>	
Viscosity, kinematic	Not Applicable
<b>quartz, 1%≤conc respirable crystalline silica&lt;10% (14808-60-7)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>11.2. Information on other hazards</b>	
<b>11.2.1. Endocrine disrupting properties</b>	
No additional information available	
<b>11.2.2. Other information</b>	
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
<b>SECTION 12: Ecological information</b>	
<b>12.1. Toxicity</b>	
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
LC50 - Fish [1]	> 100 mg/l (96 h, Salmo trutta, Literature study)
EC50 - Crustacea [1]	> 100 mg/l (48 h, Daphnia magna, Literature study)
<b>12.2. Persistence and degradability</b>	
<b>Sureflow 60LC (Mixture)</b>	
Persistence and degradability	Not established.

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<b>quartz, 1%≤conc respirable crystalline silica&lt;10% (14808-60-7)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

<b>crystalite EU (14464-46-1)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

### 12.3. Bioaccumulative potential

#### Sureflow 60LC (Mixture)

Bioaccumulative potential	Not established.
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#### quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)

Bioaccumulative potential	No bioaccumulation data available.
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#### crystalite EU (14464-46-1)

Bioaccumulative potential	No data available.
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#### aluminium oxide, non-fibrous (1344-28-1)

Bioaccumulative potential	No data available.
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### 12.4. Mobility in soil

#### quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)

Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

#### crystalite EU (14464-46-1)

Ecology - soil	No data available.
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#### aluminium oxide, non-fibrous (1344-28-1)

Surface tension	No data available in the literature
Ecology - soil	No data available.

### 12.5. Results of PBT and vPvB assessment

Component	
quartz, 1%≤conc respirable crystalline silica<10% (14808-60-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
crystalite EU (14464-46-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
aluminium oxide, non-fibrous (1344-28-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : No other effects known

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.
HP Code	: HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

### 14.1. UN number or ID number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated
Proper Shipping Name (RID)	: Not regulated

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### 14.3. Transport hazard class(es)

#### ADR

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

#### IMDG

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

#### IATA

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

#### RID

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

### 14.4. Packing group

Packing group (ADR) : Not regulated

Packing group (IMDG) : Not regulated

Packing group (IATA) : Not regulated

Packing group (RID) : Not regulated

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Rail transport

Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

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

##### REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### France

#### Occupational diseases

Code	Description
RG 25	Diseases resulting from the inhalation of mineral dust containing crystalline silica (quartz, cristobalite, tridymite), crystalline silicates (kaolin, talc), graphite or coal.

##### Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).  
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : Calcium Aluminate Cement, quartz, 1%≤conc respirable crystalline silica<10%, cristobalite  
EU are listed

SZW-lijst van mutagene stoffen : Calcium Aluminate Cement is listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed



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SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed  
**Denmark**  
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product  
**Switzerland**  
Storage class (LK) : LK 6.1 - Toxic materials

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Other information : Report language name. English. In the event of any conflict between the English and other language versions, the English version shall prevail.

#### Full text of H- and EUH-statements:

H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

Although reasonable care has been taken in the preparation of the information contained herein, Resco extends no warranties, makes no representation and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.