

Revision date: 14.11.2014
Replacement of version 0018 of 21.10.2013

Version: 0019



KNAUF AQUAPANEL GmbH

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name **Superlite E/L**
Product number **depe0002**
Item code **00128380, 00089750, 00096391, 00086733, 00128958, 00086732**

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

Appropriate use:
The product is used as insulation material (cryogenic insulation).

1.3 Company/undertaking identification

KNAUF AQUAPANEL GmbH
Kipperstraße 19
D-44147 Dortmund
Telephone: +49-231-9980-01 Telefax: +49-231-9980-138
e-mail-address of the competent person responsible for this Safety Data Sheet:
urban-finking.gefstoff@t-online.de

Technical contact:

KNAUF AQUAPANEL GmbH, Kipperstraße 19, D-44147 Dortmund
Telephone: +49-231-9980-01 Telefax: +49-231-9980-138

1.4 Emergency telephone number

Giftnotruf Berlin, Advice in German and English
Telephone: +49-30-30686 790

2. Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification in accordance with Regulation (EC) No 1272/2008

The substance does not meet the criteria for a classification as hazardous in accordance with the current version of Regulation (EC) No 1272/2008.

2.1.2 Classification in accordance with Directive 67/548/EEC

The substance does not meet the criteria for a classification as hazardous in accordance with the current version of Directive 67/548/EEC.

2.2 Label elements in accordance with Regulation (EC) No 1272/2008

Hazard pictogram(s):	No pictogram
Signal word(s):	No signal word
Product identifier:	Not required
Hazard statements:	Not required
Precautionary statements:	Not required
Supplemental label for certain mixtures:	Not required

2.3 Other hazards

No special hazards have to be mentioned, however avoid formation of dust during processing and treatment.
The dustiness of the product has been determined in accordance with DIN 33897-2 and EN 15051-Method B.
Classification of dustiness according to EN 15051-Method B:
Dusting propensity concerning respirable dust: moderate
Dusting propensity concerning inhalable dust: high
The criteria for identifying substances as PBT and vPvB set out in Annex XIII of Regulation (EC) No 1907/2006 shall not apply to inorganic substances.

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3. Composition/information on ingredients

3.1 Substances

REACH registration number:

According to Annex V(7), perlite is exempted from the obligation to register, if it is not chemically modified.

3.1.1 Main constituent of the substance

This product is perlite of volcanic origin recovered by expansion at temperatures above 1000°C.

CAS No: 93763-70-3

EC No: Not listed

Index No: Not listed

3.1.2 Impurity, stabilising additive, or individual constituent

The product contains quartz. The content of the respirable dust fraction is less than 1% in the dust fraction of perlite.

CAS No: 14808-60-7

EC No: 238-878-4

Index No: Not listed

3.1.3 Additional information

None.

4. First aid measures

4.1 Description of first aid measures

4.1.1 General information

Emergency eyewash should be provided in the immediate working surroundings.

4.1.2 In case of inhalation

If liberated dust is inhaled, ensure supply of fresh air.

In the event of symptoms take medical treatment.

4.1.3 In case of contact with skin

No special measures necessary.

4.1.4 In case of contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do.

Do not rub eyes, cornea damage is possible by mechanical stress.

4.1.5 In case of ingestion

No special measures necessary.

4.2 Most important symptoms and effects, both acute and delayed

If liberated dust is inhaled: irritant effect on the respiratory tract, e.g. burning, coughing.

In case of contact of liberated dust with eyes: burning eyes, tears.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No information available.

5. Firefighting measures

5.1 Extinguishing media

5.1.1 Suitable extinguishing media

Product itself is non-combustible. Fire extinguishing method of surrounding areas must be discussed.

5.1.2 Unsuitable extinguishing media

Product itself is non-combustible. Fire extinguishing method of surrounding areas must be discussed.

5.2 Special hazards arising from the substance or mixture

No special hazards have to be mentioned.

5.3 Advice for firefighters

Wear self-contained breathing apparatus.

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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Avoid formation of dust. Ensure adequate ventilation.
Keep away from unprotected people.

6.1.2 For emergency responders

For suitable fabric for personal protective clothing see Section 8.

6.2 Environmental precautions

No special measures necessary.

6.3 Methods and material for containment and cleaning up

Pick up mechanically. Avoid formation of dust.
Do not use compressed air for cleaning surfaces or clothing.
Use approved industrial vacuum cleaner for removal.

6.4 Reference to other sections

For personal protective equipment see also Section 8.
For disposal considerations see also Section 13.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1 Advice on safe handling

Avoid formation of dust. When filling, transferring, or emptying of containers, adequate suctioning close to work place necessary.
Do not compress empty bags, except when contained in another clean bag.
Dust deposits that cannot be avoided must be taken up regularly.
Comply with the minimum standards in accordance with TRGS 500.¹ In case of release of mineral dust, comply with the protective measures in accordance with TRGS 559.¹
In case of dust formation and release of only small amounts of dust (range of grams) the model solutions of the protection guidelines 100¹ and 110¹ must be taken into consideration in designing the work process.
In case of dust formation and release of medium to large amounts of dust (range of kilograms up to tons) the model solutions of the protection guidelines 200¹, 208¹ and 240¹ must be additionally taken into consideration in designing the work process.

7.1.2 Advice on general occupational hygiene

Do not inhale dust. Use suitable barrier skin cream in case of sensitive skin.
Emergency eyewash should be provided in the immediate working surroundings.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Advice on protection against fire and explosion

No special measures necessary.

7.2.2 Requirements for storage rooms and vessels

Keep only in the original container. Keep container tightly closed.

7.2.3 Advice on storage compatibility

Do not store together with hydrofluoric acid.
The information about joint storage given in Table 2 of TRGS 510¹ must be observed.

7.2.4 Further information on storage conditions

Store in a dry place.

7.2.5 Storage class (for Germany only)

LGK 13 (non-combustible solids) in accordance with TRGS 510¹.

7.3 Specific end use(s)

The product is only intended for the uses mentioned under subsection 1.2.
Recommended use: as lightweight aggregate and for cryogenic insulation. Insulation for oxygen and nitrogen plants up to a height of 50 metres, in heat exchangers and in the deep freeze industry.

8. Exposure controls/personal protection

8.1 Control parameters

CAS number	Identification	Limit values	Remarks
93763-70-3	perlite	5 mg/m ³ inhalable aerosol 10 mg/m ³ 4 mg/m ³	National limit values – eight hours Austria Belgium Latvia
		10 mg/m ³ inhalable aerosol	National limit values – short term Austria

The methods for measuring chemical agents in workplace atmosphere must meet the general requirements of EN 481, EN 482 and EN 689.

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8.2 Exposure controls**8.2.1 Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See also subsection 7.1.

In case of dust formation exhaust ventilation at the object (initiation point) is necessary.

In case of release of dust, additionally comply with the protective measures in accordance with TRGS 559.¹

The effectiveness of suitable protective measures must be controlled.

Suitable assessment methods are described in the German TRGS 402¹.

8.2.2 Individual protection measures, such as personal protective equipment

Personal protective equipment needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer/supplier of the personal protective equipment.

8.2.2.1 Eye/face protection

Tightly fitting safety glasses in accordance with EN 166 (in case of dust formation).

8.2.2.2 Skin protection**Hand protection:**

Work gloves for protection against mechanical damage.

Body protection:

Not necessary.

8.2.2.3 Respiratory protection

Filtering half mask to protect against particles FFP1 – FFP3 in accordance with EN 149 (in dust-laden atmosphere).

Maximum use concentration for substances with occupational exposure limit values (OELV):

P1-filter up to max. 4 x OELV; P2-filter up to max. 10 x OELV; P3-filter up to max. 30 x OELV.

These values are only valid for Germany in accordance with the German DGUV Regel 112-190².

The limitations in wearing time according to the DGUV Regel 112-190² (rule of the German employers' liability insurance association) for the use of respirators have to be observed.

8.2.2.4 Thermal hazards

Not relevant.

8.2.3 Environmental exposure controls

See Section 6.

9. Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state:	solid (granulation 0/1)
Colour:	white
Odour:	odourless
Odour threshold:	no data available
pH (as supplied) (20°C):	6 – 8.5
pH (of an aqueous solution) (20°C):	not relevant
Melting point/freezing point (°C):	approx. 1400
Boiling point and boiling range (°C):	not relevant
Flash point (°C), closed cup:	not relevant
Evaporation rate:	not relevant
Flammability (solid, gas):	not relevant
Upper flammability or explosive limit:	not relevant
Lower flammability or explosive limit:	not relevant
Vapour pressure (20°C) (hPa):	not relevant
Vapour density (20°C):	not relevant
Density (g/cm ³):	2.0 – 2.2
Bulk density (kg/m ³):	35 – 55
Solubility in water:	< 1 wt %
Soluble in:	not determined
Partition coefficient: n-octanol/water:	not relevant
Auto-ignition temperature (°C):	not relevant
Temperature-resistance (°C):	- 250 up to + 800
Dynamic viscosity (mPa · s) (20°C):	not relevant
Explosive properties:	not explosive
Oxidising properties:	not relevant

9.2 Other information

None.

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10. Stability and reactivity**10.1 Reactivity**

No data available for the product.

10.2 Chemical stability

The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

When used as intended, no hazardous reaction known.

10.4 Conditions to avoid

When used as intended, no particular conditions known.

10.5 Materials to avoid

Avoid contact with hydrofluoric acid.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

For hazardous combustion products see subsection 5.2.

11. Toxicological information**11.1 Information on toxicological effects****11.1.1 Toxicokinetics, metabolism and distribution**

No data are available for the product.

11.1.2 Acute effects (acute toxicity, irritation and corrosivity)

LD50 rat, oral	(mg/kg)	No data available.
LD50 rat, dermal	(mg/kg)	No data available.
LC50 rat, inhalation	(mg/l/4h)	No data available.
Irritant effect on skin		No data available.
Irritant effect on eyes		No data available.

11.1.3 Sensitisation

No evidence of sensitive properties of perlite has been found.

11.1.4 Repeated dose toxicity

No data available.

11.1.5 CMR effects (carcinogenicity, mutagenicity, toxicity for the reproduction)

Carcinogenicity	No data available.
Mutagenicity	No data available.
Toxicity for the reproduction	No data available.

11.1.6 Comprehensive evaluation of the CMR properties of substances subject to registration

No data available.

11.1.7 Information on likely routes of exposure

If liberated dust is inhaled: irritant effect on the respiratory tract, e.g. burning, coughing.

In case of contact of liberated dust with eyes: burning eyes, tears.

11.1.8 Symptoms related to the physical, chemical and toxicological characteristics

If liberated dust is inhaled: irritant effect on the respiratory tract, e.g. burning, coughing.

In case of contact of liberated dust with eyes: burning eyes, tears.

11.1.9 Delayed and immediate effects as well as chronic effects from short and long-term exposure

If liberated dust is inhaled: irritant effect on the respiratory tract, e.g. burning, coughing.

In case of contact of liberated dust with eyes: burning eyes, tears.

11.1.10 Interactive effects

No information on interactive effects available for the product.

11.1.11 General remarks

The product has not been tested.

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12. Ecological information**12.1 Toxicity****Aquatic toxicity:**

LC50 (fish)	No data available.
EC50 (daphnia)	No data available.
IC50 (algae)	No data available.

Behaviour in sewage works:

Inorganic product, insoluble in water. Can be mechanically refined for the most part in waste water cleaning plants.

12.2 Persistence and degradability

The product is insoluble in water.

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

The methods for determining the bioaccumulative potential are not applicable to inorganic substances.

12.4 Mobility in soil

The product has not been tested.

12.5 Results of PBT and vPvB assessment

The criteria for identifying substances as PBT and vPvB set out in Annex XIII of Regulation (EC) No 1907/2006 shall not apply to inorganic substances.

12.6 Other adverse effects

Ozone depletion potential	No data available.
Photochemical ozone creation potential	No data available.
Global warming potential	No data available.
AOX-hint	Not to apply.

12.7 Further information

Chemical oxygen demand (COD)	No data available.
Biochemical oxygen demand (BOD5)	No data available.

Contains according to the formulation following compounds of directives 2006/11/EC and 80/68/EEC:

None.

13. Disposal considerations**13.1 Waste treatment methods**

Waste disposal according to official state regulations.

Consult the local waste disposal expert about waste disposal.

Disposal operations/recovery operations according to Directive 2008/98/EC

Disposal operations	D 1	Deposit into or on to land
Recovery operations	R 10	Land treatment resulting in benefit to agriculture or ecological improvement

Properties of waste which render it hazardous in accordance with Annex III of Directive 2008/98/EC

Not relevant.

13.1.1 Product / unused product

Waste disposal corresponding to European Waste Catalogue. Wastes must be classified with respect to their origin and depending on different processing steps. The waste codes mentioned as follows are only constituted as our recommendations. Referring to the particular case they should be completed or revised.

EC waste code	17 06 04
Waste notation	Insulation materials other than those mentioned in 17 06 01 and 17 06 03

Alternative:

EC waste code	17 05 04
Waste notation	Soil and stones other than those mentioned in 17 05 03

13.1.2 Contaminated packaging

Recommendation: Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Recommended cleansing agent: Remove adhering residues mechanically.

Packaging that cannot be cleaned:

EC waste code:	15 01 02
Waste notation:	Plastic packaging

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14. Transport information**14.1 UN number**

No dangerous good in accordance with the UN Model Regulations (ADR/RID/ADN/IMDG/ICAO/IATA).

14.2 UN proper shipping name

Not relevant.

14.3 Transport hazard class(es)

Not relevant.

14.4 Packing group

Not relevant.

14.5 Environmental hazards

Not relevant.

14.6 Special precautions for user

Not relevant.

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

Not relevant.

15. Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1 Information regarding relevant Community provisions**

Regulation (EC) No 1907/2006:

Annex V(7) (perlite)

(exemptions from the obligation to register)

15.1.2 Information regarding national laws/national measures that may be relevant (for Germany only)

Indications on restriction of occupation:

Not relevant

Major-accident Regulation:

Not relevant

Fire and explosion hazards:

Not relevant

Regulation on clean air (TA Luft):

Number 5.2.1 (exhaust stream in case of liberation of dust during processing and treatment)

Not hazardous to water according to VwVwS³

Water hazard class:

German Ordinance on Hazardous Substances

(in accordance with EC-Directive 98/24/EC):

Article 6 must be observed.

In case of liberation of dust during processing and treatment:

German ordinance on Hazardous Substances

(in accordance with EC-Directive 98/24/EC):

Articles 7, 8, 9, 14, Annex I No 2

Regulation on Occupational Medical Prevention (ArbMedVV):

Annex, Part 1 (1):

Obligatory prophylaxis: The employer shall arrange occupational medical prophylaxis for workers conducting activities with exposure to inhalable dust, if the occupational exposure limit value is exceeded.

Annex, Part 1 (2):

Prophylaxis offer: For activities involving inhalable dust occupational medical prevention has to be offered.

Technical Rules for Hazardous Substances¹:

TRGS 400, 402, 500, 510, 555, 559, 900

Rules of the employers' liability insurance association²:

DGUV Regel 112-190, 112-192

Informations of the employers' liability insurance association²:

DGUV Information 250-403

Classification in accordance with the easy-to-use workplace control scheme for hazardous substances of the Federal Institute for Occupational Safety and Health, version 2.2, 2012⁴: inhalation: hazard group A

(in case of release of mineral dust, the protective measures in accordance with TRGS 559¹ should be applied preferably)

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

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16. Other information

- 16.1 Keeping (restrictions)** Not relevant
Supply to industry consumer, for the general public
- 16.2 Full text of the hazard statements referred to under point 2.1.1 of the Safety Data Sheet**
 Not to apply.
- 16.3 Full text of the R phrases referred to under point 2.1.2 of the Safety Data Sheet**
 Not to apply.
- 16.4 Label elements in accordance with Directive 67/548/EEC**
- | | |
|--|--------------|
| Symbol(s) of danger: | Not required |
| Indication(s) of danger: | Not required |
| Hazardous component(s) to be indicated on label: | Not required |
| R phrases: | Not required |
| S phrases: | Not required |
| Special labelling for certain mixtures: | Not required |
- 16.5 Key to abbreviations and acronyms used in the safety data sheet**
- | | |
|------------|---|
| ADN: | Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure |
| ADR: | Accord européen relatif au transport international des marchandises dangereuses par route |
| AOX: | adsorbable organically bound halogens |
| ICAO/IATA: | International Civil Aviation Organisation/International Air Transport Association-Dangerous Goods Regulations |
| IMDG-Code: | International Maritime Dangerous Goods-Code |
| LGK: | Lagerklasse (storage class) |
| PBT: | persistent, bioaccumulative and toxic |
| RID: | Règlement international concernant le transport des marchandises dangereuses par chemin de fer |
| TRGS: | Technische Regeln für Gefahrstoffe (Technical Rules for Hazardous Substances) |
| vPvB: | very persistent and very bioaccumulative |
| VwVwS: | Verwaltungsvorschrift wassergefährdende Stoffe (Administrative Regulation of Water-polluting Substances) |
- 16.6 Literature references and sources for data**
- <http://www.baua.de>
 - <http://www.arbeitssicherheit.de>
 - <http://www.umweltbundesamt.de>
 - <http://www.baua.de/emkg>
- 16.7 Changes which have been made to the previous version of the safety data sheet**
 Revised sections: 1.2, 8.1, 8.2.1, 8.2.2, 8.2.2.3, 9.1, 15.1.2

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.