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Trade name:	Cryoperl EL Cryoperl EL-T	
Company/Undertaking:	KNAUF Performance Materials GmbH Kipperstraße 19, D-44147 Dortmund	Revision date: 28.03.2022
Telephone	+49-231-9980-01	
Product number:	depe0002	

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## SECTION 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: 618-970-4

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.

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## SECTION 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.

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## SECTION 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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## SECTION 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.

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## SECTION 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<sup>1</sup>. In case of release of mineral dust, comply with the protective measures in accordance with TRGS 559<sup>1</sup>.

In case of dust formation and release of only small amounts of dust (range of grams) the model solutions of the Control Guidance Sheets 100<sup>1</sup>, La-101<sup>1</sup> and 110<sup>1</sup> 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 Control Guidance Sheets 200<sup>1</sup>, 208<sup>1</sup> and 240<sup>1</sup> must be additionally taken into consideration.

#### 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 12 of TRGS 510<sup>1</sup> 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 in accordance with TRGS 510<sup>1</sup>.

### 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.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

CAS number	Identification	Limit values	Remarks
93763-70-3	perlite	5 mg/m <sup>3</sup> inhalable aerosol 10 mg/m <sup>3</sup> 4 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> - total dust 4 mg/m <sup>3</sup> - respirable fraction  10 mg/m <sup>3</sup> inhalable aerosol	<b>National limit values – eight hours</b> Austria Belgium Latvia Norway Norway <b>National limit values – short term</b> Austria

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

### 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<sup>1</sup>.

The effectiveness of suitable protective measures must be controlled.

Suitable assessment methods are described in the German TRGS 402<sup>1</sup>.

#### 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 Eyeface 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 112-190<sup>2</sup>.

The limitations in wearing time according to the DGUV Regel 112-190<sup>2</sup> (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.

## SECTION 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  
Melting point/freezing point (°C): approx. 1400  
Boiling point/initial boiling point/boiling range (°C): not applicable  
Flammability: not combustible  
Lower explosion limit: not applicable  
Upper explosion limit: not applicable  
Flash point (°C), closed cup: not applicable  
Auto-ignition temperature (°C): not applicable

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*(continued from 9.1 Information on basic physical and chemical properties)*

Decomposition temperature (°C):	temperature resistance – 250°C up to + 800°C
pH (as supplied) (20°C):	6 – 8.5
Kinematic viscosity (mm <sup>2</sup> /s):	not applicable
Solubility in water:	< 1 wt %
Soluble in:	not determined
Partition coefficient: n-octanol/water (log value):	not applicable
Vapour pressure (20°C) (mbar):	not applicable
Bulk density (kg/m <sup>3</sup> ):	35 – 55
Relative vapour density (20°C):	not applicable
Particle characteristics:	dusty Classification of dustiness in accordance with DIN 33897-2 and EN 15051-Method B: dusting propensity concerning respirable dust: moderate dusting propensity concerning inhalable dust: high

**9.2 Other information**

None.

## SECTION 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 Incompatible materials**

Avoid contact with hydrofluoric acid.

**10.6 Hazardous decomposition products**

No hazardous decomposition products known.

For hazardous combustion products see subsection 5.2.

## SECTION 11: Toxicological information

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

No data are available for the product.

**11.1.1 Acute toxicity**

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.

**11.1.2 Skin corrosion/irritation**

No data available.

**11.1.3 Serious eye damage/irritation**

No data available.

**11.1.4 Respiratory or skin sensitisation**

No evidence of sensitive properties of perlite has been found.

**11.1.5 Germ cell mutagenicity**

The substance is not classified as a germ cell mutagen.

**11.1.6 Carcinogenicity**

The substance is not classified as carcinogenic.

**11.1.7 Reproductive toxicity**

The substance is not classified as toxic for the reproduction.

**11.1.8 Specific target organ toxicity (STOT)-single exposure**

The substance is not classified as a specific target organ toxicant after single exposure.

**11.1.9 Specific target organ toxicity (STOT)-repeated exposure**

The substance is not classified as a specific target organ toxicant after repeated exposure.

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**11.1.10 Aspiration hazard**

The substance is not classified as an aspiration toxicant.

**11.1.11 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.

**11.1.12 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.

**11.2 Information on other hazards**

No data available for the substance.

**11.2.1 Endocrine disrupting properties**

The substance does not have endocrine disrupting properties.

**11.2.2 Other information**

None.

**SECTION 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.

Chemical oxygen demand (COD) No data available.

Biochemical oxygen demand (BOD5) No data available.

AOX-hint Not to apply.

**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 Endocrine disrupting properties**

The substance does not have endocrine disrupting properties.

**12.7 Other adverse effects**

Ozone depletion potential No data available.

Photochemical ozone creation potential No data available.

Global warming potential No data available.

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

None.

**SECTION 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.

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**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

**SECTION 14: Transport information****14.1 UN number or ID 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 Maritime transport in bulk according to IMO instruments**

Not relevant.

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

- Regulation (EC) No 1907/2006: Annex V (7) (perlite)  
(exemptions from the obligation to register)
- Conditions of restriction in accordance with Annex XVII Regulation (EC) No 1907/2006: None
- The substance is not classified as a substance of very high concern (SVHC) in accordance with Article 59 of the Regulation (EC) No 1907/2006.

**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 Ordinance: 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)
- Water hazard class: Non-hazardous to water  
(according to § 3(2) sentence 2 AwSV)<sup>3</sup>
- German Ordinance on Hazardous Substances  
(in accordance with EC-Directive 98/24/EC): Article 6 must be observed

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

In case of liberation of dust during processing and treatment:

German ordinance on Hazardous Substances

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

Regulation on Occupational Medical Prevention (ArbMedVV):

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

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 Substances<sup>1</sup>:

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

Rules of the employers' liability insurance association<sup>2</sup>:

DGUV Regel 112-190, 112-192

Information of the employers' liability insurance association<sup>2</sup>:

DGUV Information 240-014

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, 2014<sup>4</sup>:

inhalation: hazard group A

(in case of release of mineral dust, the protective measures in accordance with TRGS 559<sup>1</sup> should be applied preferably)

**15.2 Chemical safety assessment**

No chemical safety assessment has been carried out.

## SECTION 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 sections 2 and 3 of the Safety Data Sheet**

Not to apply.

**16.3 Key or legend 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 relatif au transport international des marchandises dangereuses par route

AOX: adsorbable organically bound halogens

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water)

ICAO/IATA: International Civil Aviation Organisation/International Air Transport Association-Dangerous Goods Regulations

IMDG-Code: International Maritime Dangerous Goods-Code

IMO: International Maritime Organization

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

**16.4 Literature references and sources for data**

<sup>1</sup> <https://www.baua.de>

<sup>2</sup> <https://www.arbeitssicherheit.de>

<sup>3</sup> <https://www.umweltbundesamt.de>

<sup>4</sup> <https://www.baua.de/emkg>



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**16.5** *Changes which have been made to the previous version of the safety data sheet*

Revised sections: 2.3, 8.1, 11.2.1, 12.6, 16.3

**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.**

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