Safety data sheet in accordance with Regulation (EC) No 1907/2006

Revision date: 04.07.2018 **Version: 0023**
Replacement of version 0022 of 19.03.2018

KNAUF AQUAPANEL GmbH

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

1.1 ***Product identifier***
Trade name **Cryoperl EL**
Cryoperl EL-T
Product number **depe0002**

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 ***Details of the supplier of the safety data sheet***
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
(24 hours, Monday – Sunday)

SECTION 2: Hazards identification

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

2.2 ***Label elements***

Hazard pictogram(s):	No pictogram
Signal word(s):	No signal word
Product identifier:	Not required
Hazard statements:	Not required
Precautionary statements:	Not required
Supplemental hazard information:	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.

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.

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.

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.

Trade name:	Cryoperl EL Cryoperl EL-T	
Company/Undertaking:	KNAUF AQUAPANEL GmbH Kipperstraße 19, D-44147 Dortmund	Revision date: 04.07.2018
Telephone	+49-231-9980-01	
Product number:	depe0002	

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.

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[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 Control Guidance Sheets 100[1] and 110[1] 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[1], 208[1] and 240[1] 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 2 of TRGS 510[1] 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 510[1].

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.

SECTION 8: Exposure controls/personal protection

8.1 ***Control parameters***

CAS number	Identification	Limit values	Remarks
93763-70-3	perlite		**National limit values – eight hours**
		5 mg/m³ inhalable aerosol	Austria
		10 mg/m³	Belgium
		4 mg/m³	Latvia
			National limit values – short term
		10 mg/m³ inhalable aerosol	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[1].
The effectiveness of suitable protective measures must be controlled.
Suitable assessment methods are described in the German TRGS 402[1].

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 112-190[2].
The limitations in wearing time according to the DGUV Regel 112-190[2] (rule of the German employers' liability insurance association) for the use of respirators have to 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
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

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

Density (g/cm³):	2.0 – 2.2
Relative density:	not determined
Bulk density (kg/m³):	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.

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 toxicological effects***
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.

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.

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 ***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.

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***
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 and the IBC Code***
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)

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)[3]
German Ordinance on Hazardous Substances (in accordance with EC-Directive 98/24/EC):	Article 6 must be observed
<u>In case of liberation of dust during processing and treatment:</u> 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): <u>Obligatory prophylaxis</u>: 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): <u>Prophylaxis offer</u>: For activities involving inhalable dust occupational medical prevention has to be offered.
Technical Rules for Hazardous Substances[1]:	TRGS 400, 402, 500, 510, 555, 559, 900
Rules of the employers' liability insurance association[2]:	DGUV Regel 112-190, 112-192
Information of the employers' liability insurance association[2]:	DGUV Information 250-403

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

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[4]: inhalation: hazard group A
(in case of release of mineral dust, the protective measures in accordance with TRGS 559[1] 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 subsection 2.1 of the Safety Data Sheet***
Not to apply.

16.3 ***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
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
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***
[1] http://www.baua.de
[2] http://www.arbeitssicherheit.de
[3] http://www.umweltbundesamt.de
[4] http://www.baua.de/emkg

16.5 ***Changes which have been made to the previous version of the safety data sheet***
Revised sections: 1.1, headers

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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