

Revision date: 31.05.2020
Replacement of version 0009 of 12.03.2019

Version: 0010



KNAUF Performance Materials GmbH

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

1.1 Identification of the substance or mixture

Trade name **Perlfüller Z; Perlfüller F; Perlfüller 20; Perlfüller 20/50; Perlfüller 50**
Product number **depe0005**

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

Appropriate use:
The product is used as filler and fine aggregate.

1.3 Details of the supplier of the safety data sheet

KNAUF Performance Materials 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:
info@gefstoff.de

Technical contact:

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

1.4 Emergency telephone number

Giftnotruf der Charité - Universitätsmedizin Berlin, Campus Benjamin Franklin, Haus VIII (Wirtschaftsgebäude), UG
Hindenburgdamm 30, 12203 Berlin
Giftnotruf Berlin +49-30-30686 700 (Advice in German and English)
(24 hours, Monday – Sunday)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

STOT RE 2; H373 (lung; inhalation)

2.2 Label elements

Hazard pictogram(s):



Signal word(s):

Warning

Product identifier:

Perlfüller Z; Perlfüller F; Perlfüller 20;
Perlfüller 20/50; Perlfüller 50
contains quartz (respirable) CAS-No 14808-60-7

Hazard statements:

H373 May cause damage to lungs through prolonged or repeated exposure if inhaled.

Precautionary statements:

P260 Do not breathe dust.
P285 In case of inadequate ventilation wear respiratory protection.

Supplemental hazard information:

Not required

Trade name:	Perlfüller Z; Perlfüller F; Perlfüller 20; Perlfüller 20/50; Perlfüller 50	
Company/Undertaking:	KNAUF Performance Materials GmbH Kipperstraße 19, D-44147 Dortmund	Revision date: 31.05.2020
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Product number:	depe0005	

2.3 Other hazards

The product contains quartz as an impurity. Quartz is known to be a silicosis-producing substance to human. Avoid absolutely formation of dust during processing and treatment. According to section 2 of the German TRGS 906: in case of formation of alveolar dust of quartz processing and treatment are considered as carcinogenic activities. 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
Depending on the fraction low up to moderate.
Dusting propensity concerning inhalable dust
Depending on the fraction moderate up to 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.

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 between 1.11% and 1.91% 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

Take off contaminated clothing immediately and wash before reuse.
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.
Dust in throat and nasal passages must be removed immediately.
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*
In case of formation of dust, 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 absolutely formation of dust. Ensure adequate ventilation.
In case of formation of dust, wear respiratory protection.
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 500¹.
In case of release of mineral dust, comply with the protective measures in accordance with TRGS 559¹.
In case of dust formation and release of only small amounts of dust (range of grams) the model solutions of the Control Guidance Sheets 100¹, La-101¹, 110¹, 200¹, 208¹ and 240¹ must be taken into consideration.
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 Sheet 300¹ (closed system) must be additionally taken into consideration.
The consideration of the Good Practice Guide on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it⁵ is recommended.
- 7.1.2** *Advice on general occupational hygiene*
Do not inhale dust.
After worktime and before breaks the affected skin areas must be thoroughly cleaned.
Take off contaminated clothing immediately and wash before reuse. Store work clothing separately.
Emergency eyewash should be provided in the immediate working surroundings.

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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.

SECTION 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 10 mg/m ³ inhalable aerosol	National limit values – eight hours Austria Belgium Latvia National limit values – short term Austria
14808-60-7	quartz	0.1 mg/m ³ (respirable fraction) 0.15 mg/m ³ respirable aerosol 0.3 mg/m ³ inhalable aerosol 0.1 mg/m ³ respirable aerosol 0.05 mg/m ³ respirable fraction 0.15 mg/m ³ respirable aerosol 0.05 mg/m ³ respirable fraction 0.075 mg/m ³ respirable dust 0.6 mg/m ³ inhalable aerosol 0.2 mg/m ³ respirable aerosol	EU-exposure limit value in accordance with Directive (EU) 2019/130 8 hours Different national limit values – eight hours Austria Denmark Denmark Finland Hungary Spain The Netherlands Different national limit values – short term Denmark Denmark

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 559¹.

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).

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8.2.2.2 Skin protection**Hand protection:**

Work gloves for protection against mechanical damage.

Body protection:

Closed work clothing.

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.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state:	solid (granulation 0 – 200 µm)
Colour:	greyish brown
Odour:	odourless
pH (as supplied):	6 – 8.5
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):	not determined
Relative density:	not determined
Bulk density (g/dm ³):	700
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):	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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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 product contains quartz. The content of the respirable dust fraction is between 1.11% and 1.91% in the dust fraction of perlite.

Quartz has been declared as carcinogenic category 1 by the German MAK-Commission. This declaration only must be considered as scientific recommendations. It is not in accordance with the regulations. According to section 2 of the German TRGS 906: in case of formation of alveolar dust of quartz processing and treatment are considered as carcinogenic activities.

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*

STOT RE 2

May cause damage to lungs through prolonged or repeated exposure if inhaled.

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.

Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of damage to the lungs. The product contains quartz as an impurity. Quartz is known to be a silicosis-producing substance to human.

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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 5 Recycling/reclamation of other inorganic materials

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 19 12 09

Waste notation minerals (for example sand, stones)

Alternative:

EC waste code 01 04 10

Waste notation dusty and powdery wastes other than those mentioned in 01 04 07

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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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)
 - 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.
 - Observe employment restrictions under the law for the protection of young people at work (94/33/EC).
 - Observe Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
- 15.1.2 Information regarding national laws/national measures that may be relevant (for Germany only)**
- Indications on restriction of occupation: Youth Employment Protection Act must be observed
- 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): Articles 6, 7, 8, 9, 14, Annex I No 2 must be observed.
- In case of liberation of dust during processing and treatment:
- 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 silicogenic dust, if the occupational exposure limit value is exceeded.
Annex, Part 1 (2):
Prophylaxis offer: For activities involving silicogenic dust occupational medical prevention has to be offered.
- Technical Rules for Hazardous Substances¹: TRGS 400, 402, 500, 510, 555, 559, 600, 900, 906
- Rules of the employers' liability insurance association²: DGUV Regel 112-190, 112-192
- Information of the employers' liability insurance association²: DGUV Information 250-401
- 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, 2014⁴: inhalation: hazard group C
(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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SECTION 16: Other information

- 16.1 Keeping (restrictions)** Not relevant
Supply to industry consumer
- 16.2 Full text of the hazard statements referred to under subsection 2.1 of the Safety Data Sheet**
H373 May cause damage to lungs through prolonged or repeated exposure if inhaled.
- 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)
- NEPSI: Noyau Européen pour la Silice – European Network for Silica
- 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)
- VCI: Verband der chemischen Industrie (German Association of Chemical Industry)
- 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>
- ⁵ <http://www.nepsi.eu>
- 16.5 Changes which have been made to the previous version of the safety data sheet**
Revised sections: 1.3, 1.4, 2.2, 7.1.1, 8.1, 9.1, 11.1.9, 15.1.1, 15.1.2, 16.2, 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.