

## SAFETY DATA SHEET

According to Regulation (EC) No.1272/2008

### KEXCELLED THE K3™ ASA

Product code:	Revision Number:	Revision date:	MSDS No.:
THE K3™ ASA	01	26/11/2024	KS097

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#### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

<b>Product name:</b>	kexcelled 3D printing filament
<b>Product code:</b>	THE K3™ ASA
<b>Product Use:</b>	A filament to be used in 3D printing applications.
<b>Supplier:</b>	NorthBridge New Material Technology(Suzhou) Co.,Ltd
<b>Address:</b>	Building# B2, Chaoyang Industrial square, Caohu Industrial Park, Xiangcheng District, Suzhou. CN.
<b>Responsible/issuing person:</b>	wilson@northbridge3d.com
<b>Emergency telephone numbers:</b>	+86-(0512)-65801831

#### 2. HAZARDS IDENTIFICATION

<b>Possible Hazards:</b>	Danger of burns while handling the hot product.
<b>Other hazards:</b>	No specific dangers known, if the regulations/notes for storage and handling are considered.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Chemical name:</b>	Acrylate-Styrene-Acrylonitrile Copolymer
<b>CAS Number:</b>	26299-47-8
<b>Weight:</b>	>99%

#### 4. FIRST AID MEASURES

<b>Inhalation:</b>	After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm.  Provide medical aid.
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**Skin contact:** Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require hospital treatment.

**Eye contact:** In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek immediate medical attention.

**Ingestion:** Rinse mouth and then drink plenty of water. If difficulties occur: Seek medical attention.

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

**Symptoms:** No significant reaction of the human body to the product known.

#### Indication of any immediate medical attention and special treatment needed

**Treatment:** Treat according to symptoms (decontamination, vital functions), no known specific antidote.

#### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media :** water spray, dry powder, foam, carbon dioxide

#### Special hazards arising from the substance or mixture:

Carbon dioxide, carbon monoxide, hydrogen cyanide;  
hydrocyanic acid

The substances/groups of substances mentioned can be released in case of fire.

**Special protective equipment:** Wear a self-contained breathing apparatus.

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**Further information:** Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Avoid inhalation. Sources of ignition should be kept well clear.

**Environmental precautions:** Discharge into the environment must be avoided.

**Methods and material for containment and cleaning up:**

Sweep/shovel up. Avoid raising dust. Ensure adequate ventilation.

**Reference to other sections:** Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

#### 7. HANDLING AND STORAGE

**Precautions for safe handling :** Processing machines must be fitted with local exhaust ventilation. When working on exhaust systems special safety precautions must be taken, because dangerous substances can accumulate in the residue of the exhaust system. Handle in accordance with good industrial hygiene and safety practice.

**Protection against fire and explosion:** Avoid dust formation. Dust can form an explosive mixture with air. Provide exhaust ventilation. When the product is

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ground (chopped), dust explosion regulations should be noted.

#### Conditions for safe storage, including any incompatibilities Further information on storage

**conditions:** Protect against moisture. Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flame.

**Specific end use(s):** For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Components with workplace control parameters:

Given suitable ventilation, it can be assumed that the threshold limits will not be reached.

100-42-5: styrene

107-13-1: acrylonitrile

141-32-2: n-butyl acrylate

TWA value 11 mg/m<sup>3</sup> ; 2 ppm (OEL (EU)) indicative

STEL value 53 mg/m<sup>3</sup> ; 10 ppm (OEL (EU)) indicative

**Respiratory protection:** Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

**Hand protection:** Use additional heat protection gloves when handling hot molten masses (EN 407), e.g. of textile or leather.

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<b>Eye protection:</b>	Safety glasses with side-shields (frame goggles) (e.g. EN 166)
<b>Body protection:</b>	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
<b>General safety and hygiene measures:</b>	Avoid contact of molten material with skin. Avoid inhalation of dusts/mists/vapors. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	filaments
<b>Color:</b>	natural.
<b>Odour:</b>	faint specific odor
<b>Odor threshold:</b>	not determined
<b>pH Value:</b>	not soluble.
<b>Softening temperature:</b>	> 100 °C (DIN EN ISO 306)
<b>Onset of boiling:</b>	The substance/product decomposes therefore not determined.
<b>Flash point:</b>	>400 °C
<b>Evaporation rate:</b>	not applicable, The product is a non-volatile solid.
<b>Flammability:</b>	not highly flammable
<b>Lower explosion limit:</b>	As a result of our experience with this product and our knowledge of its composition we do not expect any

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hazard as long as the product is used appropriately and in accordance with the intended use.

**Upper explosion limit:**

As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

**Ignition temperature:**

> 400 °C (DIN 51794)

**Vapor pressure:**

Not applicable.

**Density:**

1.06g/cm<sup>3</sup>

**Relative vapor density:**

not applicable, The product is a non-volatile solid.

**Solubility in water:**

insoluble

**Partitioning coefficient n-octanol/water (log Kow):**

not applicable

**Self ignition:**

not self-igniting

**Thermal decomposition:**

approx. 320 °C

**To avoid thermal decomposition, do not overheat.**

**Viscosity, dynamic:**

not relevant

**Explosion hazard:**

not explosive

**Fire promoting properties:**

not fire-propagating Other information

**Bulk density:**

approx. 600 kg/m<sup>3</sup> (20 °C, 1 bar)

## 10. STABILITY AND REACTIVITY

**Reactivity:**

No hazardous reactions if stored and handled as prescribed/indicated.

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<b>Chemical stability:</b>	The product is stable if stored and handled as prescribed/indicated.
<b>Conditions to avoid:</b>	Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flame.
<b>Incompatibility:</b>	Substances to avoid: strong oxidizing agents
<b>Hazardous decomposition products:</b>	Possible thermal decomposition products: hydrogen cyanide; hydrocyanic acid Gaseous products of degradation can be given off if the product is greatly overheated., monomers, hydrocarbons, gases/vapours, cyclic low molecular weight oligomers, oxides.

#### 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity:</b>	Virtually nontoxic after a single ingestion.
<b>Irritation:</b>	No irritation is expected under intended use and appropriate handling.
<b>Respiratory/Skin sensitization:</b>	No data was available concerning sensitizing properties. The chemical structure does not suggest such an effect.
<b>Germ cell mutagenicity:</b>	No data was available concerning mutagenic activity. The chemical structure does not suggest such an effect.
<b>Carcinogenicity:</b>	The whole of the information available provides no indication of a carcinogenic effect.
<b>Reproductive toxicity:</b>	No reproductive toxic effects reported. The chemical structure does not suggest such an effect.

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#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure):

The product has not been tested. The statement has been derived from the structure of the product.

#### Experimental/calculated data:

Not expected to cause chronic toxic effects.

#### Other relevant toxicity information:

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

## 12. ECOLOGICAL INFORMATION

#### Toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the structure of the product.

#### Persistence and degradability:

The polymer component of the product is poorly biodegradable. The insoluble fraction can be removed by mechanical means in suitable waste water treatment plants.

In accordance with the required stability the product is not readily biodegradable. The product has not been tested. The statement has been derived from the structure of the product.

#### Bio accumulative potential:

Discharge into the environment must be avoided.

The product will not be readily bioavailable due to its consistency and insolubility in water.

#### Mobility in soil (and other compartments if available):

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Study scientifically not justified.

#### Results of PBT and vPVB assessment:

The product does not fulfill the criteria for PBT (persistent/bio accumulative/toxic) or vPVB (very persistent/very bio accumulative).

#### Additional information:

No data can be given due to the product's insolubility in water.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods:

Must be disposed of or incinerated in accordance with local regulations.

#### Contaminated packaging:

Uncontaminated packaging can be recycled.

### 14. TRANSPORT INFORMATION

#### ADR:

Not classified as a dangerous good under transport regulations

#### RID:

Not classified as a dangerous good under transport regulations

#### ADN:

Not classified as a dangerous good under transport regulations

#### IMDG:

Not classified as a dangerous good under transport regulations

#### IATA/ICAO:

Not classified as a dangerous good under transport regulations

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#### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

**Chemical Safety Assessment:**

Chemical Safety Assessment not required Product is not classified as hazardous.

#### 16. OTHER INFORMATION

The information in this Material Safety Data Sheet (MSDS) is based on current knowledge and experience. No liability can be assumed for the accuracy and completeness of this information.