



优泰科(苏州)密封技术有限公司
UTEC (Suzhou) Sealing Solutions Co. Ltd.

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Material Safety Data Sheet

In accordance with REACH Regulation (EC) No 1907/2006

Product Name: UTECMID-1 natural

Revision Date: 16 January 2019

1. Identification of the substance

Trade name: UTECMID-1 natural
Application: material for the machining of hydraulic and pneumatic sealing elements
Producer: UTEC Sealing Solutions Co., Ltd.
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E-Mail: wang.anlei@utec.cc
Telephone: +86 (512) 62 79 50 18 (during office hours)

2. Identification of hazards

This product is not harmful if handled and stored properly.

3. Composition

Chemical description: Polymer based on cast Nylon 6 (polymer of ϵ -Caprolactam)
Chemical structure: $\text{PA 6G } (-\text{CO}-(\text{CH}_2)_5\text{NH}-)_n$
CAS Nr.: 25038-54-4
May contain:
 ϵ -Caprolactam (up to 2-3%)
CAS Nr.: 105-60-2
Symbol: Xn
R numbers: R20/22; R 36/37/38

4. First Aid measures

Inhalation: In case of accidental inhalation of fumes or thermal decomposition products, don appropriate protective gear and remove victim from the hazard zone. If the person is unresponsive, apply artificial respiration/CPR if necessary. Seek medical help and keep victim calm and warm.
Skin Contact: In case of contact with molten material, immediately cool affected areas with cold water for a prolonged time. Do not use ice to cool.
Remove contaminated clothing. Do not attempt to peel off any polymer stuck to skin. Cover burns with sterile bandages and seek medical attention.

Eye Contact: If a foreign body (splinter, chip) enters the eye do not rub. Rinse immediately with plenty of water and seek medical attention.

5. Firefighting measures

Suitable extinguishing media: Water, alcohol-resistant foam, dry powder, carbon dioxide

Unsuitable extinguishing media: none known

Hazardous decomposition products: carbon dioxide, carbon monoxide, formaldehyde. Nitric oxide, amine, ammonia, ϵ -caprolactam, nitrile, aliphatic and aromatic hydrocarbons, aldehyde, hydrogen cyanide, Sulphur dioxide can also be generated, as well as small quantities of ketones and acids.

Special protective equipment for combating fire: Wear self-contained breathing apparatus and protective clothing.

Additional advice: Usual measures for fire with chemicals.

This product ignites in a flame and continues to burn on removal of the source. With thermal decomposition toxic and combustible gasses and steam are released.

There is a danger of the fire spreading through spontaneous ignition of the gaseous decomposition products. Molten product must therefore be cooled with water.

6. Accidental release measures

No environmentally detrimental effects of the material are known, though it is not biologically degradable.

7. Handling and storage

Handling: Avoid overheating of material by improper handling. Avoid dust generation. For mechanical processing, local extraction / ventilation is recommended to ensure that the exposure limits stated in item 8 are not reached. Measures must be taken to avoid static electricity discharge if dust is produced.

Storage: The appropriate company regulations for fire prevention must be followed.

Storage class: LGK 11

8. Exposure control / personal protection

Exposure limits (TRGS 900, Standard 2000):

Respirable dust: MAC 6 mg/m³

ϵ -caprolactam (dust and vapours): CAS 105-60-2 MAC 5 mg/m³ (measured as total dust)
note „Y“, no risk of damage to embryo if MAC is observed

Respiratory Protection: In case of dusty operating procedures, use respiratory protection (e.g. filter mask with P1 filter)

Eye Protection: In case of mechanical operations, wear safety glasses with side pieces.

Skin Protection: Wear protective clothing.

Hygiene Measures: General industrial hygiene regulations are to be observed.

Wash hands before breaks and at the end of work shift. Do not consume food or drink or smoke at the workplace.

9. Physical and chemical properties

Form:	solid (semi-finished, finished parts)	
Color:	White	
Odor:	odorless	
Melting point/-range:	~ 210°C (~ 410F)	(ISO 54765)
Decomposition Temperature:	> 300°C (> 572F)	
Ignition Temperature:	> 400°C (> 752F)	(ASTM D 1929)
Density:	1,15 g/cm ³	(ISO 53479)
Explosion Limits:	N/A	
Solubility:	Insoluble in water	

10. Stability and reactivity

Stability: The material is stable under normal conditions.

Conditions to avoid: Temperatures > 300 °C (> 572F) – start of thermal decomposition

Hazardous decomposition products: carbon dioxide, carbon monoxide, formaldehyde. Nitric oxide, amine, ammonia, ε-caprolactam, nitrile, aliphatic and aromatic hydrocarbons, aldehyde, hydrogen cyanide, Sulphur dioxide can also be generated, as well as small quantities of ketones and acids.

Substances to Avoid: Strong acids, oxidizing media.

11. Toxicological information

No adverse effects on health are known from appropriate handling of this material in line with its intended use. Contact with molten material can cause burns. Dust released through mechanical processes can cause skin, respiratory and eye irritation. By following the rules there is little or no likelihood of inhaling fibre.

12. Ecological information

No damaging effects on the environment are known of the material; it is not biologically degradable. Due to the material's insolubility in water, separation by filtration or sedimentation is possible.

13. Disposal conditions

Uncontaminated product can be recycled.

If no further use of waste product is possible, it can be mixed with household waste or incinerated in appropriate facilities, in accordance with official local regulations.

Waste product code No.: 20 01 39 (EWC) plastics.

14. Transport information

This product is not classified as dangerous goods under the terms of transport regulations:

ADNR:	nonhazardous
ADR:	nonhazardous
ICAO/IATA-DGR:	nonhazardous
IMDG/UN:	nonhazardous
RID:	nonhazardous

mailable

15. Regulatory information

No designation is necessary in accordance with EU directive 67/548/EWG and 1999/45/EC.

R20/22 Harmful by inhalation and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

16. Other information

The information in items 4-8 and 10-12 does not refer to appropriate use of the, but to the release of larger amounts of by-products due to accidents or irregularities in the handling of the aforementioned material.

For appropriate use of the product, see the specific product and usage information, e.g. Material Data Sheet.