

Safety Data Sheet

Ultramid® B27 HM 01

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1. Identification

Product identifier used on the label

Ultramid® B27 HM 01

Recommended use of the chemical and restriction on use

Recommended use*: Polymer

Recommended use*: Polymer; for industrial processing only

Suitable for use in industrial sector: Polymers industry

Unsuitable for use: Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 417839

Chemical family: No data available.

Synonyms: Polyamide PA6

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2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

The product does not require a hazard warning label in accordance with GHS criteria.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

caprolactam

CAS Number: 105-60-2

Content (W/W): ≥ 3.0 - $< 5.0\%$

Synonym: Hexahydro-2H-azepin-2-one; ϵ -Caprolactam

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

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If inhaled:

Keep patient calm, remove to fresh air.

If on skin:

Wash thoroughly with soap and water

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Hazards: No hazard is expected under intended use and appropriate handling.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

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

Unsuitable extinguishing media for safety reasons:
No data available.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, hydrogen cyanide, can be emitted at > 300 °C

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Under special fire conditions traces of other toxic substances are possible. Formation of further decomposition and oxidation products depends upon the fire conditions.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Further accidental release measures:

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Environmental precautions

No special precautions necessary.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Pick up with suitable appliance and dispose of.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:

Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

The product in undamaged packing need not be stored separately.

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Suitable materials for containers: Stainless steel 1.4301 (V2), Stainless steel 1.4401, Aluminium, High density polyethylene (HDPE)

Storage stability:
Protect against moisture.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

caprolactam	OSHA PEL	STEL value 3 mg/m ³ dust ; STEL value 10 ppm 40 mg/m ³ vapour ; TWA value 1 mg/m ³ dust ; TWA value 5 ppm 20 mg/m ³ vapour ;
	ACGIH TLV	TWA value 5 mg/m ³ Inhalable fraction and vapor ;

Advice on system design:

Provide local exhaust ventilation to control dusts/vapours.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) particulate respirator. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Hand protection:

Wear gloves to prevent contact during mechanical processing and/or hot melt conditions.

Eye protection:

Safety glasses with side-shields.

Body protection:

Body protection must be chosen based on level of activity and exposure.

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General safety and hygiene measures:

Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions. Avoid inhalation of dust. Handle in accordance with good industrial hygiene and safety practice. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form:	pellets	
Odour:	faint specific odour	
Odour threshold:	not applicable	
Colour:	white opaque	
pH value:	not soluble	
melting range:	180 - 220 °C	(DIN 53736)
Freezing point:	No data available.	
Melting point:	No data available.	
onset of boiling:	not applicable	
Boiling point:	No data available.	
Boiling range:	No data available.	
Sublimation point:	No applicable information available.	
Flash point:	not applicable, the product is a solid	
Flammability:	not highly flammable	
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	395 °C	(DIN 51794)
Vapour pressure:	not applicable	
Density:	1.12 - 1.15 g/cm ³ (20 °C)	
Relative density:	No data available.	
Bulk density:	640 - 740 kg/m ³	
Vapour density:	not applicable, The product is a non-volatile solid.	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Self-ignition temperature:	not self-igniting	

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Thermal decomposition:	> 300 °C May decompose if overheated and/or subjected to prolonged heating.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	not applicable, the product is a solid
Solubility in water:	partly soluble
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Evaporation rate:	not applicable, The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

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

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

not fire-propagating

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions known.

Conditions to avoid

Temperature: > 300 degrees Celsius

Avoid prolonged exposure to extreme heat.

Incompatible materials

No substances known that should be avoided.

Hazardous decomposition products

Decomposition products:

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Hazardous decomposition products: carbon monoxide, hydrogen cyanide, caprolactam
Thermal decomposition products: caprolactam, The substances/groups of substances mentioned may be released during processing.

Thermal decomposition:
> 300 °C
May decompose if overheated and/or subjected to prolonged heating.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Contact with molten product may cause thermal burns. The resin in pelleted form poses a low hazard.

Information on: caprolactam

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Of low toxicity after short-term skin contact.

Oral

Type of value: ATE
Value: 1,480 mg/kg

Information on: caprolactam

*Type of value: LD50
Species: rat (female)
Value: 1,475 mg/kg (Directive 84/449/EEC, B.1)*

Inhalation

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Not inhalable due to the physico-chemical properties of the product.

Information on: caprolactam

Type of value: LC50

Species: rat (male/female)

Value: approx. 8.16 mg/l (BASF-Test)

Exposure time: 4 h

An aerosol with respirable particles was tested.

Dermal

Type of value: ATE

Value: > 5,000 mg/kg

Assessment other acute effects

No applicable information available.

Irritation / corrosion

Information on: caprolactam

Assessment of irritating effects: May cause slight irritation to the skin. May cause slight irritation to the eyes.

Sensitization

Assessment of sensitization: No applicable information available.

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No applicable information available.

Information on: caprolactam

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies.

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Genetic toxicity

Assessment of mutagenicity: No applicable information available.

Reproductive toxicity

Assessment of reproduction toxicity: No applicable information available.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See SDS section 11 - Toxicological information.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic 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.

Aquatic toxicity

Information on: caprolactam

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

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Information on: caprolactam

LC0 (96 h) 100 mg/l, *Oryzias latipes* (OECD Guideline 203, semistatic)

LC50 (96 h) 500 - 1,000 mg/l, *Salmo gairdneri*, syn. *O. mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

LC50 (96 h) 707.1 mg/l, *Salmo gairdneri*, syn. *O. mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

Aquatic invertebrates

Information on: caprolactam

EC50 (48 h) > 1,000 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

EC50 (48 h) > 500 mg/l, *Daphnia magna* (DIN 38412 Part 11, static)

EC50 (48 h) > 500 mg/l, *Daphnia magna* (DIN 38412 Part 11, static)

Aquatic plants

Information on: caprolactam

EC50 (72 h) > 1,000 mg/l (growth rate), *Selenastrum capricornutum* (OECD Guideline 201, static)

EC50 (72 h) 427.5 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static)

EC50 (72 h) > 1,000 mg/l (biomass), *Selenastrum capricornutum* (OECD Guideline 201, static)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Information on: caprolactam

other aquatic

bacterium/EC50 (17 h): 4,240 mg/l

Persistence and degradability

Elimination information

Information on: caprolactam

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82 % BOD of the ThOD (14 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge) Readily biodegradable (according to OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential

Information on: caprolactam

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Additional information

Information on: Caprolactam

Other ecotoxicological advice:

Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Check for possible recycling. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in accordance with national, state and local regulations. Packs must be completely emptied. Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

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Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	105-60-2	caprolactam
NJ	105-60-2	caprolactam

NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/09/22



We create chemistry

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