

1. Chemical product and company identification

1.1. Product identifier

Product form : Substance
Trade name : Caprolactam
Chemical name : Caprolactam

1.2. Recommended uses and restrictions

Use Categories01 - Feed materials :

2.1. Relevant identified uses

Nylon

2.2. Uses advised against

No additional information available

1.3. Supplier information

- Supplier
Company : Capro
Address : 108-12, Sapyeong-ro, Nam-gu, Ulsan, Korea
Emergency telephone number : +82 -052-270-9783

2. Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity (oral), Category 4	H302
Acute toxicity(inhalation) Category 4	
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity - Single exposure, Category 3, Respiratory tract irritation	H335

2.2. Label elements

2.2.1. Hazard pictograms (GHS KR)



2.2.2. Signal word (GHS KR)

Warning.

2.2.3. Hazard statements (GHS KR)

H302 - Harmful if swallowed.
H313 - May be harmful in contact with skin.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

2.2.4. Precautionary statements (GHS KR)

Precaution:

P261 - Avoid breathing dust/mist/vapours.
P264 - Wash ... thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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Treatment:

P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.

P302+P352 - IF ON SKIN: Wash with plenty of water/....

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 - Call a POISON CENTER/doctor/... if you feel unwell.

P321 - Specific treatment (see ... on this label).

P330 - Rinse mouth.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

Storage:

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

Disposal:

P501 - Dispose of contents/container according to waste related regulations.

2.3. Hazards - Other hazards which do not result in classification - Hazard Risk

No data available

3. Composition/information on ingredients

Product form : Substance

Substance name	Other Names	Product identifier number	Concentration (%)
Caprolactam	-	CAS-No.: 105-60-2 KECI-No.: KE-18554	100

4. First-aid measures

4.1. First-aid measures after eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

4.2. First-aid measures after skin contact

Wash skin with plenty of water.

Take off contaminated clothing.

If skin irritation occurs: Get medical advice/attention.

4.3. First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing.

Call a poison center or a doctor if you feel unwell.

4.4. First-aid measures after ingestion

Rinse mouth.

Call a poison center or a doctor if you feel unwell.

4.5. Other medical advice or treatment

Treat symptomatically.

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5. Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.
Unsuitable extinguishing media : Not applicable

5.2. Special hazards arising from the substance or mixture

Not applicable

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate spillage area.
Avoid contact with skin, eyes and clothing.
Avoid breathing dust/mist/vapours.
Do not attempt to take action without suitable protective equipment.
For further information refer to section 8: "Exposure controls/personal protection".
Dispose of materials or solid residues at an authorized site.

6.2. Environmental precautions and protective procedures

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Mechanically recover the product.

7. Handling and storage

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing.
Wear personal protective equipment.
Use only outdoors or in a well-ventilated area.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash contaminated clothing before reuse.
Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.

7.2. Conditions for safe storage

Store locked up.
Store in a well-ventilated place.
Keep container tightly closed.
Keep cool.

8. Exposure controls/personal protection

8.1. Occupational Exposure Limits

No data available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

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8.3. Personal protection

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

9. Physical and chemical properties

a) Appearance	: No data available
Physical state	: Solid.
Colour	: white.
b) Odour	: No data available
c) Odour threshold	: No data available
d) pH	: No data available
e) Melting / freezing point	: 69.3 °C / Not applicable
f) Initial boiling point and boiling range	: 270.8 °C 1013.25 hPa
g) Flash point	: Not applicable
h) Evaporation rate	: No data available
i) Flammability (solid, gas)	: Non flammable.
j) Upper / lower flammability or explosive limits	: Not applicable
k) Vapour pressure	: 0.0013 hPa 20°C
l) Solubility	: Solubility in water: 866.89 g/l 22°C Log Pow: 0.12 25°C
m) Vapour density	: 3.91 air=1
n) Relative density	: 1.105 20°C
o) Partition coefficient n-octanol/water	: 0.12 25°C
p) Auto-ignition temperature	: 395 °C 1013 mbar
q) Decomposition temperature	: -31900 J/g
r) Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: 9 cP 78°C
s) Molecular mass	: 113.2 g/mol

Other information

Relative evaporation rate (butylacetate=1) : 1 butyl acetate=1

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10. Stability and reactivity

10.1. Chemical stability and Possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions.

No dangerous reactions known under normal conditions of use.

10.2. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.3. Incompatible materials

No data available

10.4. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

11.1. Information on exposure routes

Oral	: Harmful if swallowed.
Skin and eyes contact	: May be harmful in contact with skin. Causes skin irritation. Causes serious eye irritation.
Inhalation	: Not classified

11.2. Health hazards

Acute toxicity (oral):

Harmful if swallowed.

Acute toxicity (dermal):

May be harmful in contact with skin.

Acute toxicity (inhalation):

Not classified

Caprolactam (105-60-2)

LD50 oral rat	1475 mg/kg
LC50 Inhalation - Rat	8.16 mg/l/4h

Skin corrosion/irritation:

Causes skin irritation.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory sensitization:

Not classified

Skin sensitization:

Not classified

Carcinogenicity:

Not classified

Probably not carcinogenic to humans.

Mutagenicity:

Not classified

Reproductive toxicity:

Not classified

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STOT-single exposure:

May cause respiratory irritation.

STOT-repeated exposure:

Not classified

Aspiration hazard:

Not classified

Caprolactam (105-60-2)	
Viscosity, kinematic	Not applicable

12. Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Caprolactam (105-60-2)	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	> 1000 mg/l
ErC50 algae	> 1000 mg/l Source: ECHA
Partition coefficient n-octanol/water (Log Kow)	0.12 25°C
Partition coefficient n-octanol/water (Log Pow)	0.12 25°C

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Caprolactam (105-60-2)	
Partition coefficient n-octanol/water (Log Pow)	0.12 25°C
Partition coefficient n-octanol/water (Log Kow)	0.12 25°C

12.4. Mobility in soil

Caprolactam (105-60-2)	
Partition coefficient n-octanol/water (Log Pow)	0.12 25°C
Partition coefficient n-octanol/water (Log Kow)	0.12 25°C

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

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13. Disposal considerations

13.1. Disposal method

Dispose of contents/container in accordance with licensed collector's sorting instructions.

13.2. Disposal precaution

No data available

14. Transport information

UN RTDG	ADR	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Marine pollutant			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

No data available

15. Regulatory information

15.1. Occupational Safety and Health Act

Hazardous Substances Prohibited for Manufacturing	Not applicable	
Hazardous Substances Requiring Permission	Not applicable	
Threshold Limit Values Chemicals	Applicable	Caprolactam
Hazardous Substances Below Permissible Level	Not applicable	
Hazardous Substances Subject to Working Environment Measurement	Not applicable	
Hazardous Substances Subject to Workers Requiring Health Examination	Not applicable	
Hazardous Substances Subject to Control	Not applicable	

15.2. Chemicals Control Act

Toxic Chemicals	Not applicable
Prohibited Chemicals	Not applicable
Restricted Chemicals	Not applicable
Substance requiring preparation for accidents	Not applicable

15.3. ACT ON REGISTRATION, EVALUATION, ETC. OF CHEMICALS (K-REACH)

Korea Existing Chemicals Inventory (KECI)	KECI-No. : KE-18554. Caprolactam
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Priority Existing Chemical ('PEC') – subject to registration	Not applicable
Priority Control Substances (Korea)	Not applicable
CMR Substances (Korea)	Not applicable

15.4. Safety Control of Dangerous Substances Act

Safety Control of Dangerous Substances Act	Not applicable
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15.5. Wastes Control Act

Wastes Control Act	Not applicable
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15.6. Other Domestic and International Regulatory Information

Domestic

Persistent Organic Pollutants(POPs) Control Act	Not applicable
Ozone Depleting Substances(ODS)	Not applicable

International

EU Regulatory Information

EU Candidate list (SVHC)	Caprolactam is not on the REACH Candidate List
EU authorization list (REACH Annex XIV)	Caprolactam is not on the REACH Annex XIV List
EU restriction list (REACH Annex XVII)	Not applicable

US Regulatory Information

CERCLA Section 103 (40CFR302.4)	Not applicable
EPCRA Section 302 (40CFR355.30)	Not applicable
EPCRA Section 304 (40CFR355.40)	Not applicable
EPCRA Section 313 (40CFR372.65)	Not applicable

International agreements

No data available

16. Other information

16.1. Data sources:	KOSHA, ECHA.
16.2. Issue date:	08/08/1998
16.3. Revision number and date:	13.0, 30/09/2021
16.4. Other information:	No data available
16.5. Indication of changes:	No data available

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.