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

1.1 Product identifier

Trade name:	ε-Caprolactam
Other names:	lactam, ε-aminocaproic lactam, azepan-2-one, 6-aminohexanoic acid cyclic lactam, 6-hexanoic lactam, aminocaproic acid lactam
EINECS No.:	203-313-2
REACH Registration No.:	01-2119457029-36-xxxx

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

Identified uses

- Intermediate product for organic syntheses
- Monomer for production of polyamide
- Monomer for production of resins
- Monomer for production of thermally curable resins
- Softening agent for polyamide
- Use for leather treatment and impregnation as well as component of colorants and coating agents

Uses advised against

Not required

1.3 Details of the supplier of the safety data sheet

Manufacturer/supplier:	DOMO Caproleuna GmbH Bau 3101 – Am Haupttor D-06237 Leuna
National contact:	Dr. Thomas Jende
E-mail (expert):	msds@domo.org
Information: (Monday-Friday, 7:00–16:00)	Business Unit Caprolactam Tel. + 49 (0) 3461 / 43 20 67 Fax + 49 (0) 3461 / 43 25 73

1.4 Emergency telephone number

Europe	+44 1235 239670	[Carechem 24]
Middle East/Africa	+44 1235 239671	[Carechem 24]
North/South America	+1 215 207 0061	[Carechem 24]
East/South East Asia	+65 3158 1195	[Carechem 24]

*country specfic emergency telephone numbers in section 16

SECTION 2: *Hazards identification*

2.1 Classification of the substance or mixture (CLP)

Hazard classes/categories	Hazard-statement	Classification procedure
Acute oral toxicity, category 4	H302	test result
Skin corrosion/irritation, category 2	H315	test result
Causes serious eye irritation, category 2	H319	test result
Acute inhalation toxicity, category 4	H332	test result
Specific target organ systemic toxicity (single exposure), category 3 Respiratory irritation	H335	test result

2.2 Label elements

Labeling (CLP)

Pictogram:

Signal word: **WARNING**

Hazard statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Safety precautions

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

P264	Wash hands 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.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container acc. to Item 13.

SECTION 3: *Composition/Information on Ingredients*

3.1 Substances

Chemical characterisation

Caprolactam	
CAS No.:	105-60-2
EC No. (EINECS):	203-313-2
Harmonized System Code:	29337100
Index No.:	613-069-00-2
REACH Registration No.:	01-2119457029-36-xxxx
Formula:	$C_6H_{11}NO$
Hazardous ingredients:	None

SECTION 4: *First-aid measures*

4.1 Description of first-aid measures

General Notes

Remove injured person from the danger zone to fresh air. If breathing and in case of vomiting or impending unconsciousness put the injured in the recovery position. Get medical attention. Remove contaminated clothing immediately.
The temperature of molten caprolactam is at least 70 °C.

Following inhalation
Remove victim to fresh air. In case of respiratory arrest immediately employ artificial respiration and get medical attention. If the injured is unconscious, lay and transport him/her in recovery position.

Following skin contact
Immediately remove contaminated clothing. Wash affected skin with plenty of water and soap. Cool skin burns caused by liquid product immediately with cold water, get medical attention. Do not peel off solid product from the skin, but remove using water. If irritation persists, get medical attention.

Following eye contact
Remove contact lenses, if present. Immediately wash for at least 15 minutes under running water with the lids wide open. If available, use Previn solution. Consult a physician.

Following ingestion
Rinse the mouth. Drink plenty of water. Avoid vomiting due to danger of aspiration. Get medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms
narcotising effect
headache, dizziness and nausea

Risks
Possible susceptibility to eczema.

4.3 Indication of any immediate medical attention and special treatment needed

Show the physician the label of the original product package. Indicate, that liquid caprolactam causes burns. Ensure self-protection of first aid personnel.

Treatment
Treat according to symptoms

SECTION 5: *Firefighting measures*

5.1 Extinguishing media

Suitable extinguishing media
Water, CO_2, foam, powder

Extinguishing media which must not be used for safety reasons
None

5.2 Special hazards arising from the substance or mixture

Vapours can form explosive mixtures with air.
In case of fire, development of hazardous fire gases or vapours possible.
In the event of fire the following substances may develop: nitrogen oxides, hydrogen cyanide.
Static charging of the flakes alone or between flakes and liquid may cause ignition of an explosive gas mixture.
Product dust accumulating at the workplace may further increase the explosion risk and intensity.

5.3 Advice for firefighters

Staying in the danger zone is only permitted with self-contained breathing apparatus (with filter type A) and flame retardant full protective clothing.

5.4 Additional information

Solid caprolactam is flame resistant. Extinguishable using water.
Cool affected containers by means of water fog.
Prevent contaminated firefighting water from running off into waters or the ground water.

SECTION 6: *Accidental release measures*

6.1 Personal precautions, protective equipment and emergency procedures

Avoid skin contact and inhalation of vapours. Leakages of molten caprolactam involve danger of slipping; therefore isolate place of leakage. Seal the leak as good as possible.
Avoid dust formation. Do not inhale dusts. Provide ample fresh air in enclosed rooms.

6.2 Environmental precautions

Prevent the substance or contaminated firefighting water from running off into the soil, waterways or ground water.

6.3 Methods and material for containment and cleaning up

Isolate molten caprolactam leakage, leave to solidify and take up mechanically.
Use solvent-resistant containers (steel, glass). Flush away residual product with plenty of water. Waters containing caprolactam shall be duly disposed of via biological sewage treatment plants. Caprolactam is biologically degradable.

6.4 Reference to other sections

Not applicable

SECTION 7: *Handling and storage*

7.1 Precautions for safe handling

Protective measures
When handling the substance, eye and body protection must be worn. When vapours occur, wear breathing apparatus with filter A.

Technical measures
Observe explosion and fire protection regulations. All equipment made of stainless steel. Use enclosed pumps or pumps with high-grade slide-ring seal for product transfer. All components in contact with the product are to be heated to 85 to 95 °C.
Take precautions against electro-static charging. Use solvent-resistant sealing material, such as Teflon and/or Sigraflex. Have fire extinguisher ready.

Environmental protection measures
Install collecting devices under production and loading stations. Collect material leakages by means of chemical binding agents or dispose of properly after solidification.

Specific requirements or handling procedures
Handle in accordance with good industrial hygiene and safety practice.

Hints concerning fire and explosion prevention
Caprolactam sublimate is easily flammable in combination with mineral wool.
Vapours can form explosive mixtures with air.
All electrical installations must comply with the necessary degree of protection in accordance with the classification of the hazardous area.
There must be no sources of ignition within the protected zone.

Additional information
Temperature class: T2 (ignition temperature >300 °C).

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
This is a hygroscopic product. Avoid contact with moisture contained in the air. Take precautions against electro-static charging, protect from overheating.
Store the liquid product in heatable, heat-insulated containers at a temperature of 80 to 90 °C under inert gas (e. g. nitrogen with a maximum O_2 content of 50 ppm.)

Packaging material
Heatable and heat-insulated stainless steel containers. Small amounts in PE or Duran bottles. Steel sheet and glass are only possible for minimum quantities.
Suitable material for containers: Stainless steel, aluminium

Storeroom and container requirements
Storage space and collection rooms (with caprolactam-resistant coating) and connected pump rooms must have adequate ventilation. Keep containers closed and under inert gas (nitrogen).

Suitable material for containers: Stainless steel 1.4301, 1.4541 (V2), aluminium, stainless steel 1.4401, 1.4571 (V4)
Keep under nitrogen (O_2 content < 5 ppm). If possible, use opaque containers.

Advice for storage together with other products
Caprolactam must not be stored together with strong oxidizing agents, such as acids or bases. Regarding the fire and explosion hazard posed by the product, the legal requirements for handling combustible liquids shall be observed during storage.

Further information on storage conditions

Storage temperature
80 to 90 °C

Storage stability
If stored under the conditions stated above, the product quality is stable up to 6 months.
Maximum duration of safe storage
Max. storage duration: 6 months.

7.3 Specific end uses

For industrial use

No.	Usage description
1	Production/import of caprolactam
2	Distribution of caprolactam
3	Industrial formulation of solid substances
4	Formulation of liquid substances (industrial)
5	Use as intermediate
6	Use as monomer for the production of polyamide, polymers and thermoplastics
7	Use as monomer for resins
8	Use as monomer for thermally curing resins
9	Use as softening agent for polyamides
10	Use as leather tanning agent and for leather finishing, impregnating, coating and dyeing

For professional use

No.	Usage description
11	Use as laboratory chemical
4	Formulation of liquid substances (professional)

For consumer use

No.	Usage description
12	Use in coatings and dyeing agents (consumers)

SECTION 8: *Exposure controls/personal protection*

8.1 Control parameters

Workplace exposure limits

Type of limit value (country of origin)	Workplace exposure limit		Re-commended monitoring procedures	Max. limit	Source	Remark
	long term	short term				
AGW (DE)	5 E [mg/m³]	=2=		Cat. I	TRGS 900 1)	DFG, Y, 11

DNEL/DMEL and PNEC parameters

DNEL/DMEL			Final point	Route of exposure	Exposure frequency
Workers industry/ professional	Consumer				
Value	Value	Correcte d value*)			
not as int.	not as int.			oral	short term (acute)
not as int.	not as int.				long term (repeated)
not as int.	not as int.			dermal	short term (acute)
not as int.	not as int.				long term (repeated)
10 mg/m³	5 mg/m³	10 mg/ m³	Respiratory irritation	Inhala-tion	short term (acute)
5 mg/m³	2.5 mg/m³	5 mg/m³			long term (repeated)

*) The corrected DNEL/DMEL value results from multiplying DNEL/DMEL by the "safety factor" 2.

not as int. = contrary to intended purpose

Route of exposure	PNEC
Marine water	0.2 mg/l
Water – sporadic release	1 mg/l
Fresh water	2 mg/l
Sediment (freshwater)	10.6 mg/kg
Soil	2.55 mg/kg
Sewage plant	1737 mg/l

8.2 Exposure controls

Suitable technical control devices: See exposure scenarios in Annex.

Personal protective equipment

General protection and hygiene measures
Preventative skin protection recommended (skin protective ointment), remove contaminated clothing, see also 7. Wash hands and face after working.

Respiratory protection
Ensure adequate ventilation
if vapours/aerosols are present.
Recommended filter type: FFP2.

Hand protection
Chemical resistant protective gloves (EN 374)
Suitable material, also for prolonged direct contact (recommended: protective index 6, i. e. permeation time as per EN 374 > 480 min.):
Butyl rubber (butyl) – thickness ≥ 0.7 mm
Nitrile rubber (NBR) – thickness 0.4 mm

Eye protection
Wear frame goggles with lateral shields.

Body protection
Depending on the activities being carried out and possible exposure wear clothing that covers or protects the entire body, e. g. apron, protective boots, chemical protective overall (as per DIN EN 465).

Further notes

Select the personal protective equipment depending on the concentration and amount of hazardous substances at the respective working place.

SECTION 9: *Physical and chemical properties*

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid (melt)/solid
Colour:	colourless melt/white flakes
Odour:	faint specific odour

Physical properties

	Unit	Value	Method	Remark
Boiling point/range	°C	270.8	DIN 53171	
Melting point	°C	69.3	ISO 7060	
Ignition temperature	°C	395	DIN 51794	
Oxidizing properties		no		
Vapour pressure	mbar	0.0013	ASTM E 1194	at 20 °C
Thermal decomposition				no details available

Chemical Properties

	Unit	Value	Method	Remark
Density	g/cm³	1.015	DIN 51757	30 °C
Viscosity (dynamic)	mPa s	8.25	DIN 53015	30 °C
pH value		7.0-8.0	DIN 19268	In aqueous solution
Aqueous solubility	g/l	866.89		22 °C
Ethanol				easily soluble
Ether				easily soluble
Molar mass	g/mol	113.12		

9.2 Other information

	Unit	Value	Method	Remark
Partition coefficient n-octanol/water log P(o/w)		0.12	OECD Guideline 107	25 °C

Tends to sublime.

SECTION 10: *Stability and reactivity*

10.1 Reactivity

No dangerous reactions known. If the storage conditions described above are met, there will be no exothermic polymerisation.

10.2 Chemical stability

Caprolactam is a hygroscopic product.
No decomposition if used properly.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

High temperatures and oxygen supply. Oxidation.

10.5 Incomaptible materials

Strong oxidants, lyes and acids.

10.6 Hazardous decomposition products

In case of thermal decomposition release of CO, H_2, H_2O, HCN and carbon residues.

SECTION 11: *Toxicological information*

11.1 Information on toxicological effects

Acute toxicity

Toxicity	Effective dose	Species	Method	Remark
oral	LD50 1475 mg/kg bw	Female rat	EU method B.1 (acute toxicity oral)	Experimental determination
by inhalation	LD50 8.16 mg/l air (4 h)	Rat	OECD 403 (acute inhalation toxicity)	Experimental determination
dermal	LC50 > 2000 mg/kg bw	Rat	84/449/EEC	Experimental determination

Specific symptoms
Harmful if inhaled or swallowed. Caprolactam has an activating effect on the central nervous system. In solid state and in high-concentration solution and higher dust concentrations it has an irritating effect on the mucous membranes. Dermal sensitization has only been observed in rare cases.

Following ingestion: Trembling, spasms, irregular way of walking, nasal discharge, increased salivation, reddening of lungs and gastrointestinal tract, liver enlargement
Following skin contact: no details available
Following inhalation: Mucous membrane irritation, shortage of breath, coughing, goose-pimples, nosebleed, lacrimation
Following contact with eyes: no details available

Practical experience
When the occupational exposure limit (Arbeitsplatzgrenzwert - AGW) is exceeded, nosebleed is observed more frequently.

Skin corrosion/irritation
Irritating to skin.
No reliable animal studies available.
Based on experience in humans: Following skin contact = category 2

Serious eye damage/irritation
Irritating to eyes.
No reliable animal studies available.
Based on experience in humans: Following eye contact = category 2

Respiratory or skin sensitization
No sensitizing effect on skin and respiratory system in animals. Guinea pig maximization test (GPMT): not sensitising.

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
Based on available data, the classification criteria are not met.

Reproductive toxicity
Based on available data, the classification criteria are not met.

STOT SE
STOT SE 3, H335: May cause respiratory irritation.
Based on experience in humans: Following skin contact = category 4

STOT RE
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

11.2 Other information

Toxicity in case of repeated exposure (sub-acute, sub-chronic, chronic)

Toxicity	Effective dose	Species	Duration of exposure	Specific effect	Affected Organs	Method
Sub-chronic oral	NOAEL: 342 mg/kg bw/d (femal) NOAEL: 29 mg/kg bw/d (male)	Rat	90 d	Reduced feed uptake	Increase of liver weight, Kidney damage	OECD Guideline 408

Sub-chronic by inhalation	NOAEC: 0,245 mg/l	Rat	90 d	Local effect: keratini-sation of larynx	No systemic Toxicity	Literature review

Toxicokinetics, metabolism and distribution

Data on non-human toxicity
Method: animal test/Rat
Dose: 0,18 mg/kg bw (24h)
Administration: oral
Results:
- Absorption: digestive tract
- Distribution: blood stream
- Metabolism: not identified metabolites
- Excretion/elimination: 77,6% urine, 3,5% excrement, 1,5% respiration

Data on human toxicity
No data avaliable

SECTION 12: *Ecological information*

12.1 Toxicity

Acute ecotoxicity

Aquatic toxicity	**Species**	**Effective dose**	**Exposure time**	**Method**
Fish toxicity	Oryzias latipes	LC50: > 100 mg/l	96 h	OECD 203
Daphnia toxicity	Daphnia magna	EC50: > 1000 mg/l	48 h	OECD 202
Algae toxicity	Selenastrum capricornutum	EC50: > 1000 mg/l	72 h	OECD 201

Long term ecotoxicity

Aquatic toxicity	**Species**	**Effective dose**	**Exposure time**	**Method**
Fish toxicity	No data available			
Daphnia toxicity	Daphnia magna	NOEC: 100 mg/l	21 d	OECD 211
Algae toxicity	Pseudokirchneriella subcapitata	NOEC: 1000 mg/l	72 h	OECD 201

12.2 Persistence and degradability

Bio-degradability and elimination (H2O)
Easily biodegradable (acc. to OECD criteria)

	Degrad-ation rate	Time	Method	Remark
Water	> 82 %	14 d	OECD 301 C	Experimental determination

Good biological degradability. If properly discharged into adapted sewage treatment plants, no disturbances in the degradability of activated sludge are expected.

12.3 Bioaccumulative potential

log $P_{O/W}$ 0.12

Based on the n-octanol/water partition coefficient (log PoW) accumulation in organisms is not to be expected.

Bioconcentration factor (BCF): No data available

12.4 Mobility in soil

Adsorption/Desorption

Transport	Adsorption coefficient/ Henry constant	Method	Evaluation	Remark
Soil	Koc 57.35	PCKOCWIN v1.66	No adsorption in soil expected.	determined by calculation
Water-air	H: 0.00248 Pa m^3/mol at 25 °C	SRC HENRY v3.10 model	No evaporation from the water surface into the atmosphere.	determined by calculation

12.5 Results of PBT and vPvB assessment

Based on the available data for biotic and abiotic degradation, bioaccumulation and toxicity caprolactam is not categorized as PBT or vPvB.

12.6 Other adverse effects

Prevent from getting into waterways, sewage water or soil (ThSB: 2.605 g/g).

SECTION 13: *Disposal considerations*

13. Waste treatment methods

Waste key number:
For unused product: 070108*
For uncleaned packaging: 150110*

Disposal
Product and packaging waste must not be disposed of together with domestic waste. Do not allow to enter sewerage systems.
Disposal in accordance with applicable legal regulations observing national and regional regulations. Recycle product residues if possible, otherwise take to hazardous waste incineration.

SECTION 14: *Transport information*

Product is no hazardous material acc. to ADR/RID/IMDG codes if transported below 100 °C.
ICAO/IATA and ADN: Not tested.

Keep dry. Faint specific odour. Keep separate from odour-sensitive goods. Keep separate from food and beverages.

14.1 UN Number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard classes

Not applicable

14.4 Packaging group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for the user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: *Regulatory information*

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

This safety data sheet is in compliance with article 41 of the Industrial Safety and Health Act of Korea.

National regulations – Germany

Limitations on employment:
Make sure to comply with work restrictions pursuant to the Youth Employment Protection Act and the regulation on legal protection of working mothers (EC 92/85/EEC).

Water hazard class (acc. to AwSV)
WHC 1 = slightly hazardous to water

TA Luft (Technical instructions on air quality control)
No. 5.2.5 class I and No. 5.4.4.1d.2

National Inventories

Country	National Inventories	Status
AU	AICS	The product is a substance. The substance is listed in the inventory.
CN	IECSC	The product is a substance. The substance is listed in the inventory.
JP	CSCL, ENCS	The product is a substance. The substance is listed in the inventory.
CA	DSL	The product is a substance. The substance is listed in the inventory.
CA	NDSL	The product is a substance. The substance is not listed in the inventory.
KR	KECI	The product is a substance. The substance is listed in the inventory. (KE-18554)
KR	AREC	The product is a substance. The substance is pre-registered Registration no.: K1905-008548

NZ	NZIoC	The product is a substance. The substance is listed in the inventory.
PH	PICCS	The product is a substance. The substance is listed in the inventory.
US	TSCA	The product is a substance. The substance is listed in the inventory.
EU	EINECS	The product is a substance. The substance is listed in the inventory.
EU	REACH	The product is a substance. The substance is registered. Registration no.: 01-2119457029-36-xxxx

Legend

AICS	Australian Inventory of Chemical Substances
IECSC	Inventory of Existing Chemical Substances
CSCL	Chemical Substance Control Law
ENCS	Existing Notified Chemical Substances
DSL	Domestic Substances List
NDSL	Non-Domestic Substances List
KECI	Korean Existing Chemicals Inventory
AREC	Act on Registration and Evaluation of Chemicals (K-REACH)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippines Inventory of Chemicals and Chemical Substances
TSCA	Toxic Substances Control Act, 1976
EINECS	European Inventory of Existing Commercial Chemical Substances
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: *Other Information*

Wording of H and P phrases (number and complete text)
See item 2

Training hints
Leaflet of the BG RCI (Professional Association of Raw Materials and the Chemical Industry):

M004 Irritant substances/corrosive substances
M050 Handling of substances hazardous to health

Recommended restrictions for use
See exposure scenarios in Annex 1.

Additional information

This material safety data sheet contains data in accordance with German legislation, e. g. indicated limit values. The recipient alone is responsible for ascertaining the relevant national limit values.

The above details are based on our current state of knowledge. The information is intended to describe our product in terms of safety requirements and thus shall not guarantee certain properties. It does not create a contractual legal relationship.

The contents of the German version of this material safety data sheet are binding.
No warranty is given for the correctness of the information in other languages.

Further Information (Sources)

DGUV 113-001, TRGS 727, TRGS 510, TRGS 900, TRGS 903, Römpp's Chemielexikon etc.

Data sources

REACH Registration Dossier and Stoffsicherheitsbericht Acetone.
Phenol & Derivate-REACH Consortium, 2010.

Literature

REACH Registration Dossier and Stoffsicherheitsbericht Caprolactam.

Emergency telephone numbers (country specific)

Global/english speaking countries	**+44 1865 407333**
Country	**Emergency telephone number**
France	+33 1 72 11 00 03
Germany	+49 89 220 61012
	0800 000 7801 (toll-free, access from Germany only)
Spain	+34 91 114 2520
Italy	+39 02 3604 2884
Netherlands	+31 10 713 8195
Turkey	+90 212 375 5231
Norway	+47 2103 4452
Greece	+30 21 1198 3182
Portugal	+351 30880 4750
Denmark	+45 8988 2286
Sweden	+46 8 566 42573
Poland	+48 22 307 3690
Czech Republic	+420 228 882 830
Finland	+358 9 7479 0199
Bahrain/Middle East	+973 1619 8321
Africa/South Africa	+27 21 300 2732

United States	+1 866 928 0789 (toll-free)
Canada	+1 800 579 7421 (toll-free)
United States and Canada	+1 202 464 2554
Mexico	+52 55 5004 8763
Brazil	+55 11 3197 5891
Chile	+56 2 2582 9336
Colombia	+57 1 508 7337
Argentina	+54 11 5984 3690
Sri Lanka	+65 3158 1195
Taiwan	+886 2 8793 3212
Japan	+81 3 4578 9341
Indonesia	007 803 011 0293 (toll-free; access only from Indonesia)
Malaysia	+60 3 6207 4347
Thailand	001 800 120 666 751 (toll-free; access only from Thailand)
India	+65 3158 1198
	000 800 100 7479 (toll-free; access only from India)
Pakistan	+65 3158 1329
Bangladesh	+65 3158 1200
Philippines	+63 2 8231 2149
Vietnam	+84 28 4458 2388
South Korea	+82 2 3479 8401
Singapore	+65 3165 2217
Australia	+61 2 8014 4558
	18000 74234 (toll-free; access only from Australia)
New Zealand	+64 9 929 1483
	0800 446 881 (toll-free; access only from New Zealand)

General revision

Section 1.4/section 16: Update of emergency telephone numbers (regional and country specific)